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(54) Title: NUCLEIC ACID AND AMINO ACID SEQUENCES INVOLVED IN PAIN

(57) Abstract: The present invention relates to nucleic acid sequences which are related to pain and which are differentially expressed during pain. The invention further relates to methods of identifying nucleic acid sequences which are differentially expressed during pain, microarrays comprising such differentially expressed sequences and methods of screening agents for the ability to regulate the expression of such differentially expressed sequences.

**NUCLEIC ACID AND AMINO ACID SEQUENCES INVOLVED IN PAIN****PRIORITY**

This application claims priority under 35 U.S.C. §119(e) to U.S. Provisional Application Nos. 60/312,147, filed August 14, 2001; 60/346,382, filed November 1, 2001; and 60/333,347, filed November 26, 2001. The contents of each application are incorporated herein in their entirety.

**SEQUENCE LISTING**

The present application includes a Sequence Listing submitted herewith on four identical CD-ROM disks pursuant to 37 C.F.R. §1.53(e). The information on each CD-ROM is identical. Submitted are the following four CD-ROM disks: "Copy 1 – Sequence listing part" (disk 1), "Copy 2 – Sequence listing part" (disk 2), and "Copy 3 – Sequence listing part" (disk 3), and "CRF" (disk 4). The following information is identical for each CD-ROM submitted: Machine Format: IBM-PC; Operating System: MS-Windows; Files Contained: Formal\_sequence\_listing.txt; Size: 46,682,797 bytes; Date of Creation: August 13, 2002. The information on each CD-ROM is incorporated herein by reference in its entirety.

**BACKGROUND OF THE INVENTION**

Pain is a state-dependent sensory experience which can be represented by a constellation of distinct types of pain including chronic pain, neuropathic pain, inflammatory pain, and physiological pain. Current therapy is, however, either relatively ineffective or accompanied by substantial side effects (Sindrup and Jensen, 1999 *Pain* 83: 389). All of the primary forms of pain therapy have been discovered either empirically through folk medicine, or serendipitously. These forms of treatment include opiates, non-steroidal anti-inflammatory drugs (NSAIDs), local anesthetics, anticonvulsants, and tricyclic antidepressants (TCAs).

Recently there has been a great deal of progress in understanding the mechanisms that produce pain (McCleskey and Gold, 1999, *Annu. Rev. Physiol.* 61: 835; Woolf and Salter, 2000, *Science* 288: 1765; Mogil et al., 2000, *Annu. Rev. Neurosci.* 23: 777). It is increasingly clear that multiple mechanisms operating at different sites, and with different temporal profiles, are involved. In consequence, there is a need in the art for a shift in pain management from



identify and treat the mechanisms present in a given patient (Woolf and Mannion, 1999, *Lancet* 353: 1959; Woolf and Decosterd, 1999, *Pain* 82: 1). Accordingly, there is a need in the art for techniques which enable the identification of the genes responsible for these mechanisms.

The present invention, in an effort to meet such a need, provides a plurality of genes which are differentially expressed in animals which have been subjected to pain. The present invention provides advantages over existing measurements of differential expression in that the invention provides lower thresholds of differential expression. The present invention thus encompasses a much larger number of genes which show differential expression, and therefore provides a much improved method for identifying a larger number of genes whose expression may be directly related to the mechanisms which underlie pain.

### SUMMARY OF THE INVENTION

The present invention provides a composition comprising two or more isolated polynucleotides, wherein each of said two or more isolated polynucleotides is selected from the polynucleotides of Tables 1 or 2 or a sequence which hybridizes under high stringency conditions thereto, and wherein at least one of said two or more isolated polynucleotides is unique to Table 2, or a sequence which hybridizes under high stringency conditions thereto.

The invention also provides a composition comprising two or more isolated polynucleotides, wherein each of said two or more isolated polynucleotides is selected from the group consisting of: a polynucleotide comprising any of the polynucleotides specified in Table 1 or 2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; a polynucleotide encoding an amino acid sequence selected from the group consisting of: amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; and the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; a

polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; and a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier".

The invention further provides polypeptide sequences, indicated by Accession no. in Table 2, which are encoded by the polynucleotide sequences shown in Tables 2 which are differentially expressed by at least 1.2 fold across at least three replicate screens of neuronal tissue obtained from an animal subjected to pain relative to an animal not subjected to the same pain, with a P-value of less than 0.05.

The invention further provides human polypeptide sequences, indicated by Accession no. in Table 2, which are encoded by the human polynucleotide sequences shown in Tables 2 which are differentially expressed by at least 1.2 fold across at least three replicate screens of neuronal tissue obtained from an animal subjected to pain relative to an animal not subjected to the same pain, with a P-value of less than 0.05.

The invention further provides polypeptide sequences, indicated by Accession no. in Tables 2 or 3, which are encoded by the polynucleotide sequences shown in Tables 2 or 3 which are differentially expressed by at least 1.4 fold in an animal subjected to pain relative to an animal not subjected to the same pain.

The invention further provides human polypeptide sequences, indicated by Accession no. in Tables 2 or 3, which are encoded by the human polynucleotide sequences shown in Tables 2 or 3 which are differentially expressed by at least 1.4 fold in an animal subjected to pain relative to an animal not subjected to the same pain.

The invention further provides human polynucleotide sequences, indicated by Accession no. in Table 2 or 3 which are differentially expressed by greater than 1.4 fold in an animal subjected to pain relative to an animal not subjected to pain and polypeptide sequences encoded thereby. Preferably, the animal is a human.

The invention further provides human polynucleotide sequences, indicated by Accession no. in Table 2, which are differentially expressed by at least 1.2 fold across at least

three replicate screens of neuronal tissue obtained from an animal subjected to pain relative to an animal not subjected to the same pain, with a p-value of less than 0.05.

Table 1 of the present invention includes polynucleotide sequences which have been examined using the methods described herein, and have been previously individually described in the art as being regulated in animal models of pain. Not all of the polynucleotides shown in Table 1, however, are "differentially expressed" according to the present invention. The invention is based, in part, upon the discovery that certain polynucleotides shown in Table 1 are differentially expressed in nerve tissue. Those polynucleotides indicated as having a Fold change of +/- 1.4 or greater are differentially expressed.

Table 2 and 3 of the present invention include polynucleotide sequences which have not been previously described in the art as being regulated in animal pain models and which have been analyzed in at least three replicate screens of neuronal tissue from animals subjected to pain, and have attained a statistical significance of  $p < 0.05$ . Table 2 and 3, however, also include one or more of the sequence indicated in Table 1. Accordingly, the phrase "unique to Table x" refers to a sequence which is indicated in Table x, and is not indicated in Table 1. Therefore, the invention also is based, in part, upon the discovery that polynucleotides (listed in Tables 2 and 3) are differentially expressed in nerve tissue obtained from an animal subjected to pain relative to an animal not subjected to the same pain. This discovery is demonstrated in nerve injury models of pain: e.g., spared nerve injury, axotomy, chronic constriction, and nerve ligation, and inflammation pain models. Each of tables 2 and 3 represents a polynucleotide sequence which is identified herein as being differentially expressed in an animal subjected to pain by at least 1.4 fold relative to the expression of the same sequence in an animal which has not been subjected to the same pain. Table 2 represents sequences which have been analyzed in at least three replicate assays of differential expression and are differentially expressed by at least 1.4 fold in an animal subjected to pain relative to an animal not subjected to pain, and have a statistical significance of  $P < 0.05$ . Thus, each of the polynucleotides shown in Tables 2 or 3 is differentially expressed in an animal subjected to pain according to the present invention.

Table 4 and 5 of the present invention include polynucleotide sequences which have not been previously described in the art as being regulated in an animal pain model, and which have been identified herein as being differentially expressed in an animal subjected to

inflammatory pain by at least 1.4 fold. All of the sequences in Tables 4 and 5 are identified herein as being differentially expressed, and a number of the polynucleotides indicated in Tables 4 and 5 have also been included in Table 2, as having attained a statistical significance of  $p < 0.05$  in three replicate analyses of gene expression.

Accordingly, the present invention provides a composition comprising polynucleotides which are differentially expressed by at least  $\pm 1.2$  fold in at least three replicate assays of nerve tissue obtained from a nerve injury or inflammation pain model, with a p-value of less than 0.05, wherein each of the polynucleotides is selected from the polynucleotides listed in Tables 1 or 2, and wherein at least one of the polynucleotides is selected from the polynucleotides listed in Table 2.

In one embodiment, each of the two or more isolated polynucleotides is differentially expressed by at least 1.4 fold in the nerve tissue of an animal subjected to pain relative to the animal not subjected to the pain, and alternatively, are differentially expressed by at least 1.4 fold across three replicate assays of expression in nerve tissue obtained from a nerve injury pain model with a p-value of less than 0.05.

In an alternate embodiment, each of the two or more isolated polynucleotides is differentially expressed by at least 2 fold in the neurons of an animal subjected to pain relative to the animal not subjected to the pain.

In one embodiment, the nerve tissue is the sensory neurons of the dorsal root ganglion, or dorsal horn of the spinal cord.

The invention also provides a plurality of vectors each comprising an isolated polynucleotide, wherein each of the isolated polynucleotides is selected from Table 1, 2, 3, 4, or 5, or a sequence which hybridizes under high stringency conditions thereto, and wherein at least one of the isolated polynucleotides is unique to Table 2, 3, 4, or 5, or a sequence which hybridizes under high stringency conditions thereto.

The invention further provides a plurality of viral vectors each comprising an isolated polynucleotide, wherein each of the isolated polynucleotides is selected from Table 1, 2, 3, 4, or 5, or a sequence which hybridizes under high stringency conditions thereto, and wherein at least one of the isolated polynucleotides is unique to Table 2, 3, 4, or 5 or a sequence which hybridizes under high stringency conditions thereto.

The invention further provides a plurality of vectors each comprising an isolated polynucleotide, wherein each of said two or more isolated polynucleotides is selected from the group consisting of: (a) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (b) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (i) amino acid sequences which are homologous to any of the amino acids specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (ii) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (c) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (d) a polynucleotide the nucleic acid sequence of which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (e) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier".

In one embodiment, the vectors described above are contained within a host cell.

The invention further provides a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising: hybridizing a nucleic acid sample corresponding to RNA obtained from the animal to at least three replicates of a nucleic acid sample comprising one or more nucleic acid molecules of known identity; measuring the hybridization of the nucleic acid sample to the one or more nucleic acid molecules of known identity for each of the replicates, wherein a 1.2 fold difference in the hybridization, and a p-value of less than 0.05 across the at least three replicates, of the nucleic acid sample to the one or more nucleic acid molecules of known identity relative to a nucleic acid sample obtained from an animal which has not been subjected to the pain is indicative of the differential expression of the nucleotide sequence in the animal subjected to pain.

The present invention also provides a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising: hybridizing a nucleic acid sample corresponding to RNA obtained from the animal to a nucleic acid sample comprising one or more nucleic acid molecules of known identity; measuring the hybridization of the nucleic acid sample to the one or more nucleic acid molecules of known identity, wherein a 1.4 fold difference in the hybridization of the nucleic acid sample to the one or more nucleic acid molecules of known identity relative to a nucleic acid sample obtained from an animal which has not been subjected to the pain is indicative of the differential expression of the nucleotide sequence in the animal subjected to pain.

The invention further provides a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising: hybridizing a nucleic acid sample corresponding to RNA obtained from the animal to at least three replicates of an array comprising a solid substrate and one or more nucleic acid molecules of known identity; wherein each nucleic acid member has a unique position and is stably associated with the solid substrate; and measuring the hybridization of the nucleic acid sample to the at least three replicates of the array, wherein a 1.2 fold difference in the hybridization, and a p-value of less than 0.05 across the at least three replicates, of the nucleic acid sample to the one or more nucleic acid molecules of known identity comprising the array relative to a nucleic acid sample obtained from an animal which has not been subjected to the pain is indicative of the differential expression of the nucleotide sequence in the animal subjected to pain.

The invention still further provides a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising: hybridizing a nucleic acid sample corresponding to RNA obtained from an animal which has been subjected to pain to an array comprising a solid substrate and a plurality of nucleic acid members; wherein each nucleic acid member has a unique position and is stably associated with the solid substrate; and measuring the hybridization of the nucleic acid sample to the array, wherein a 1.4 fold difference in the hybridization of the nucleic acid sample to one or more nucleic acid members comprising the array relative to a nucleic acid sample obtained from an animal which has not been subjected to the pain is indicative of the differential expression of the nucleotide sequence in the animal subjected to pain.

In one embodiment, any of the preceding methods for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain may further

comprise the step of verifying the differential expression of the nucleotide sequence by a molecular procedure selected from the group consisting of Northern analysis, *in situ* hybridization, and PCR.

The invention provides a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising: hybridizing a nucleic acid sample corresponding to RNA obtained from an animal which has been subjected to pain to an array comprising a solid substrate and a plurality of nucleic acid members; wherein each nucleic acid member has a unique position and is stably associated with the solid substrate; measuring the hybridization of the nucleic acid sample to the array, wherein a 1.4 fold difference in the hybridization of the nucleic acid sample to one or more nucleic acid members comprising the array relative to a nucleic acid sample obtained from an animal which has not been subjected to the pain is indicative of the differential expression of the nucleotide sequence in the animal subjected to pain; and verifying the differential expression of the nucleotide sequence by a molecular procedure selected from the group consisting of Northern analysis, *in situ* hybridization, and PCR.

In one embodiment, a 1.4 fold change in the hybridization of the nucleic acid sample to one or more nucleic acid members comprising the array relative to a nucleic acid sample obtained from an animal which has not been subjected to the pain is indicative of the differential expression of the nucleotide sequence following pain.

In a further embodiment, a 2 fold change in the hybridization of the nucleic acid sample to one or more nucleic acid members comprising the array relative to a nucleic acid sample obtained from an animal which has not been subjected to the pain is indicative of the differential expression of the nucleotide sequence following pain.

In one embodiment, the nucleic acid sample is labeled with a detectable label prior to the hybridization to the array.

In a further embodiment, the above methods for identifying a nucleic acid sequence which is differentially regulated in an animal subjected to pain further comprises the step of isolating the nucleic acid sample from the animal.

In one embodiment, nucleic acid sample is cRNA.

The present invention also provides an array comprising: a plurality of polynucleotide members, wherein each of the polynucleotide members is selected from Table 1, 2, 3, 4, or 5 and wherein at least one of the isolated polynucleotides is unique to Table 2, 3, 4, or 5; and a solid substrate, wherein each polynucleotide member has a unique position on the array and is stably associated with the solid substrate. Such an array will be referred to herein as a "pain specific array".

The invention still further provides an array comprising: a plurality of polynucleotide members, wherein each of the polynucleotide members is selected from Table 1, 2, 3, 4, or 5, and wherein at least one of the isolated polynucleotides is unique to Table 2, 3, 4, or 5 and wherein the plurality of polynucleotide members are obtained from neuronal tissue obtained from at least two different species of animal; and a solid substrate, wherein each polynucleotide member obtained from each of the two different species has a unique position on the array and is stably associated with the solid substrate. Such an array will be referred to herein as a "pain specific array".

The invention also comprises an array comprising: (a) a plurality of polynucleotide members, wherein each of said plurality of polynucleotides is selected from the group consisting of: (i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (i) to (ii) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (i) to (iii) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the



column designated "identifier"; (v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (i) to (iv) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; and (b) a solid substrate, wherein each polynucleotide member has a unique position on said array and is stably associated with said solid substrate.

In one embodiment, the plurality of polynucleotide members is differentially expressed by at least 1.2 fold across at least three replicate assays of expression in neuronal tissue of an animal subjected to pain with a p-value of less than 0.05 relative to an animal not subjected to the pain.

In one embodiment, the plurality of polynucleotide members is differentially expressed by at least 1.4 fold in the neurons of the animal subjected to pain relative to an animal not subjected to the pain.

In a further embodiment, the array comprises from 10 to 20,000 polynucleotide members.

In one embodiment, the array further comprises negative and positive control sequences and quality control sequences selected from the group consisting of cDNA sequences encoded by housekeeping genes, plant gene sequences, bacterial sequences, PCR products and vector sequences.

The invention further provides a method of identifying an agent that increases or decreases the expression of a polynucleotide sequence that is differentially expressed in neuronal tissue of a first animal which is subjected to pain comprising: administering the agent to the first animal; hybridizing nucleic acid isolated from one or more sensory neurons of the first and a second animal to a pain specific array; and measuring the hybridization of the nucleic acid isolated from the neuronal tissue of the first and second animal to the array; wherein an increase in hybridization of the nucleic acid from the first animal to one or more nucleic acid members of the array relative to hybridization of the nucleic acid from a second animal which is subjected to pain but to which is not administered the agent to one or more nucleic acid members of the array identifies the agent as increasing the expression of the polynucleotide sequence, and wherein a decrease in hybridization of the nucleic acid from the first animal to one or more nucleic acid members of the array relative to the hybridization of

the nucleic acid from second animal to one or more nucleic acid members of the array identifies the agent as decreasing the expression of the polynucleotide sequence.

In one embodiment, the preceding method further comprises the step of verifying the increase or decrease in the hybridization by a molecular procedure selected from the group consisting of Northern analysis, *in situ* hybridization, and PCR.

In one embodiment, the nucleic acid sample isolated from the first and second animal is labeled with a detectable label prior to the hybridization to the array.

In a further embodiment, the nucleic acid sample isolated from the first animal is labeled with a different detectable label than the nucleic acid sample isolated from the second animal.

The invention also provides a method for identifying a compound which regulates the expression of a polynucleotide sequence which is differentially expressed in an animal subjected to pain, comprising: (a) providing a cell comprising and capable of expressing one or more of the polynucleotide selected from the group consisting of: (i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (i) to (ii) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (i) to (iii) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (v) a polynucleotide which represents a fragment, derivative or allelic variation

of a nucleic acid sequence specified in (i) to (iv) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (b) contacting said cell with a candidate compound; and (c) measuring the expression of said one or more of the polynucleotide specified supra, wherein if the expression of said differentially expressed polynucleotide sequence is increased in an animal which is subjected to pain, then said candidate modulator will be considered to regulate the expression of said polynucleotide if the expression of said polynucleotide is decreased by at least 10% in the presence of said candidate modulator, and wherein if the expression of said differentially expressed polynucleotide sequence is decreased in an animal subjected to pain, then said candidate modulator will be considered to regulate the expression of said polynucleotide if the expression of said polynucleotide is increased by at least 10% in the presence of said candidate modulator.

The invention also provides a method for identifying a compound which regulates the expression of a polynucleotide sequence which is differentially expressed in an animal subjected to pain, comprising: providing a cell comprising and capable of expressing one or more of the polynucleotide sequences shown in Tables 1, 2, 3, 4, or 5; contacting the cell with a candidate compound; and measuring the expression of the one or more of the polynucleotide sequences shown in Tables 1, 2, 3, 4, or 5, wherein an increase or decrease in the expression of the one or more of the polynucleotide sequences shown in Table 1, 2, 3, 4, or 5 of at least 10% is indicative of regulation of the differentially expressed polynucleotide sequence.

The invention still further provides a method for identifying a compound which regulates the activity of one or more of the polypeptides shown in Table 1, 2, 3, 4, or 5, or the activity of a polypeptide encoded by a polynucleotide sequence indicated in Table 1, 2, 3, 4, or 5 comprising: providing a cell comprising the one or more polypeptides; contacting the cell with a candidate compound; and measuring the activity of the one or more polypeptides, wherein an increase or decrease of the activity of the one or more polypeptides of at least 10% relative to the activity of the one or more polypeptides in the cell, wherein the cell is not contacted with the candidate compound, identifies the candidate compound as a compound which regulates the activity of the one or more polypeptides.

In one embodiment, the candidate compound is selected from the group consisting of small molecule, protein, RNAi, and antisense.

In a further embodiment, the candidate compound is an antibody which binds to the polypeptide.

The invention also provides a method for producing a pharmaceutical formulation comprising: providing a cell comprising the one or more polypeptides; selecting a compound which regulates the activity of the one or more polypeptides; and mixing the compound with a carrier.

In one embodiment, the step of selecting comprises the steps of contacting the cell with a candidate compound; and measuring the activity of the one or more polypeptides, wherein an increase or decrease of the activity of the one or more polypeptides of at least 10% relative to the activity of the one or more polypeptides in the cell, wherein the cell is not contacted with the candidate compound, identifies the candidate compound as a compound which regulates the activity of the one or more polypeptides.

The invention also provides a method for producing a pharmaceutical formulation comprising: (a) providing a cell comprising said one or more polypeptides encoded by a polynucleotide selected from the group consisting of: (i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (i) to (ii) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (i) to (iii) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (v) a polynucleotide which represents a fragment, derivative or allelic variation

of a nucleic acid sequence specified in (i) to (iv) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (b) selecting a compound which regulates the activity of said one or more polypeptides; and (c) mixing said compound with a carrier.

In one embodiment, the step of selecting comprises the steps of contacting said cell with a candidate compound; and measuring the activity of said one or more polypeptides, wherein an increase or decrease of the activity of said one or more polypeptides of at least 10% relative to the activity of said one or more polypeptides in said cell, wherein the cell is not contacted with the candidate compound, identifies said candidate compound as a compound which regulates the activity of said one or more polypeptides

The invention also provides a method for identifying a compound which regulates the activity, in an animal, of one or more of the polypeptides shown in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more polynucleotide sequence indicated in Table 1, 2, 3, 4, or 5 comprising: administering a candidate compound to an animal comprising the one or more polypeptides; and measuring the activity of the one or more polypeptides wherein an increase or decrease of the activity of the polypeptide of at least 10% relative to the activity of the one or more polypeptides in an animal to which the candidate compound is not administered, identifies the candidate compound as a compound which regulates the activity of the one or more polypeptides.

Preferably, the candidate compound is selected from the group consisting of small molecule, protein, RNAi, and antisense.

In one embodiment, the candidate compound is an antibody which binds to the polypeptide.

The invention still further provides a method for identifying a small molecule which regulates the activity of one or more of the polypeptides indicated in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more polynucleotides indicated in Table 1, 2, 3, 4, or 5 comprising: providing a cell comprising the one or more polypeptides; generating a small molecule library; providing a candidate small molecule, selected from the library; contacting the cell with the candidate small molecule; and measuring the activity of the one or more polypeptides, wherein an increase or decrease of the activity of the one or more polypeptides of at least 10% relative to the activity of the one or more polypeptides in the cell, wherein the

cell is not contacted with the candidate small molecule, identifies the candidate small molecule as a small molecule which regulates the activity of the one or more polypeptides.

Preferably, the small molecule library comprises components selected from the group consisting of heterocyclics, aromatics, alicyclics, aliphatics, steroids, antibiotics, enzyme inhibitors, ligands, hormones, alkaloids, opioids, terpenes, porphyrins, toxins, and catalysts, and combinations thereof.

The invention also relates to a method for identifying a small molecule which regulates the activity of one or more of the polypeptides indicated in Table 2, comprising: (a) providing a cell comprising said one or more polypeptides encoded by a polynucleotide selected from the group consisting of: (i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (i) to (ii) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (i) to (iii) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (i) to (iv) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (b) generating a small molecule library; (c) providing a candidate small molecule, selected from said library; (d) contacting said cell with said candidate small molecule; and (e) measuring the activity of said one or more polypeptides, wherein an

increase or decrease of the activity of said one or more polypeptides or at least 10% relative to the activity of said one or more polypeptides in said cell, wherein the cell is not contacted with the candidate small molecule, identifies said candidate small molecule as a small molecule which regulates the activity of said one or more polypeptides.

The invention further relates to a method for identifying a compound useful in the treatment of pain, comprising: providing a host cell comprising a vector comprising one or more of the polynucleotides identified in Table 1, 2, 3, 4, or 5; maintaining the host cell under conditions which permit the expression of the one or more polynucleotides; selecting a compound which regulates the activity of a polypeptide encoded by the one or more polynucleotides; administering the compound to an animal subjected to pain; and measuring the level of pain in the animal, wherein a decrease in the level of pain in the animal of at least 10%, identifies the compound as being useful for treating pain.

In one embodiment, the step of selecting includes the steps of contacting the cell with a candidate compound; and measuring the activity of the polypeptide encoded by the one or more polynucleotides, wherein an increase or decrease of the activity of the polypeptide of at least 10% relative to the activity of the polypeptide in the cell, wherein the cell is not contacted with the candidate compound, identifies the candidate compound as a compound which regulates the activity of the polypeptide.

The invention further provides a method for identifying a compound useful in the treatment of pain, comprising: (a) providing a host cell comprising a vector comprising one or more of the polynucleotides selected from the group consisting of: (i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (i) to (ii)

and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence of which deviates from the nucleic acid sequences specified in (i) to (iii) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (i) to (iv) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (b) maintaining said host cell under conditions which permit the expression of said one or more polynucleotides; (c) selecting a compound which regulates the activity of a polypeptide encoded by said one or more polynucleotides; (d) administering said compound to an animal subjected to pain; and (e) measuring the level of pain in said animal, wherein a decrease in the level of pain in said animal of at least 10%, identifies said compound as being useful for treating pain.

In one embodiment, the step of selecting includes the steps of contacting said cell with a candidate compound; and measuring the activity of the polypeptide encoded by said one or more polynucleotides, wherein an increase or decrease of the activity of said polypeptide of at least 10% relative to the activity of said polypeptide in said cell, wherein the cell is not contacted with the candidate compound, identifies said candidate compound as a compound which regulates the activity of said polypeptide.

The invention also provides a method of treating pain in an animal comprising administering to the animal an antisense polynucleotide capable of inhibiting the expression of one or more of the polynucleotide sequences indicated in Table 1, 2, 3, 4, or 5.

The invention further provides a method of treating pain in an animal comprising administering to the animal a double stranded RNA molecule wherein one of the strands of the double stranded RNA molecule is identical to a portion of an mRNA transcript obtained from one or more of the polynucleotide sequences indicated in Table 1, 2, 3, 4, or 5.

The invention still further provides a method of treating pain in an animal in need thereof, comprising: administering to the animal a therapeutically effective amount of an agent which modulates the activity of one or more of the polypeptides indicated in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 1, 2, 3, 4, or 5.



The invention also provides a method of treating pain in an animal in need thereof, comprising: administering a therapeutically effective amount of an antibody which binds to one or more of the polypeptides indicated in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 1, 2, 3, 4, or 5.

The invention still further provides a method of treating pain in an animal in need thereof, comprising: administering a therapeutically effective amount of one or more of the polypeptides indicated in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 1, 2, 3, 4, or 5.

The invention also provides a pharmaceutical formulation comprising one or more polypeptides indicated in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 1, 2, 3, 4, or 5, and a carrier.

The invention also provides a pharmaceutical formulation comprising one or more antibodies which bind to one or more of the polypeptides indicated in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 1, 2, 3, 4, or 5, and a carrier.

The invention further relates to the use of: (a) a polynucleotide selected from the group consisting of: (i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide

exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (vi) a polypeptide encoded by any of the polynucleotides specified in (i) to (v); in the preparation of a medicament for the treatment of pain in an animal.

The present invention still further relates to the use of a compound which can modulate the activity of a polypeptide which is encoded by a polynucleotide selected from the group consisting of: (a) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (b) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (i) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (ii) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (c) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (d) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (e) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; in the preparation of a medicament for the treatment of pain in an animal.

The present invention provides a pharmaceutical formulation comprising one or more polypeptides encoded by a polynucleotide selected from the group consisting of: (a) a

polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (b) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (i) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (ii) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (c) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (d) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (e) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; and a carrier.

The invention still further provides a pharmaceutical formulation comprising one or more antibodies which bind to one or more of the polypeptides encoded by a polynucleotide selected from the group consisting of: (a) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene"; (b) a polynucleotide encoding an amino acid sequence selected from the group consisting of: (i) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (ii) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein"; (c) a polynucleotide which hybridizes

under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (d) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; (e) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; and a carrier.

According to the invention, a sequence differentially expressed under pain conditions must be differentially expressed in the neurons of an animal subjected to nerve injury, or inflammatory pain, thus differential expression in an animal subjected to nerve injury pain is determined, according to the invention, in one or all of the following nerve injury pain models. A sequence which is differentially expressed according to the invention is a sequence which is differentially expressed in (1) an axotomy pain model, (2) a spared nerve injury pain model, (3) chronic constriction pain model, (4) spinal segmental nerve lesion pain model, or (5) an inflammation pain model, or may be differentially expressed in all five pain models.

As used herein differential expression of a sequence in nerve tissue is determined in either a "nerve injury pain model" or a "inflammation pain model", or both. There are four alternate nerve injury pain models by which differential expression can be determined according to the invention: axotomy, spared nerve injury (SNI), spinal segmental nerve lesion, and chronic constriction.

As used herein, an "axotomy pain model" refers to a situation in which one or a plurality of peripheral nerve fibers is severed, either by traumatic injury or experimental or surgical manipulation. An "axotomy pain model" may further refer to an experimental model in which all of the axons of a given population of nerve cells are completely severed. For example, an "axotomy pain model" useful in the present invention may be a model in which all of the axons that comprise the sciatic nerve are surgically cut. All of the nerve cells in the dorsal root ganglion which gave rise to the axons of the sciatic nerve are thus said to be "axotomized".

As used herein, a “spared nerve injury pain model” refers to a situation in which one of the terminal branches of the sciatic nerve is spared from axotomy (Decosterd and Woolf, 2000 *Pain* 87: 149). The SNI procedure comprises an axotomy and ligation of the tibial and common peroneal nerves leaving the sural nerve intact.

As used herein, a “spinal segmental nerve lesion” and “chronic constriction” refer to two types of “neuropathic pain models” useful in the present invention. Both models are well known to those of skill in the art (See, for example Kim and Chung, 1992 *Pain* 50: 355; and Bennett, 1993 *Muscle Nerve* 16: 1040 for a description of the “segmental nerve lesion” and “chronic constriction” respectively). A “segmental nerve lesion” and/or “chronic constriction” neuropathic pain model may be evaluated for the presence of “pain” using any of the behavioral, electrophysiological, and/or neurochemical criteria described below.

As used herein, an “inflammatory pain model” refers to a situation in which an animal is subjected to pain, as defined herein, by the induction of peripheral tissue inflammation (Stein et al., (1988) *Pharmacol Biochem Behav* 31: 445-451; Woolf et al., (1994) *Neurosci.* 62, 327-331). The inflammation can be produced by injection of an irritant such as complete Freund's adjuvant (CFA), carrageenan, turpentine, croton oil, and the like into the skin, subcutaneously, into a muscle, into a joint, or into a visceral organ. In addition, an “inflammatory pain model” can be produced by the administration of cytokines or inflammatory mediators such as lipopolysaccharide (LPS), or nerve growth factor (NGF) which can mimic the effects of inflammation. An “inflammatory pain model” can be evaluated for the presence of “pain” using behavioral, electrophysiological, and/or neurochemical criteria as described below.

A polynucleotide is thus differentially expressed herein if it is differentially expressed in any or all of the axotomy, SNI, chronic constriction, segmental nerve lesion and inflammatory pain models.

As used herein, “nerve tissue” refers to animal tissue comprising nerve cells, the neuropil, glia, neural inflammatory cells, and endothelial cells in contact with “nerve tissue”. “Nerve cells” may be any type of nerve cell known to those of skill in the art including, but not limited to motor neurons, sensory neurons, enteric neurons, sympathetic neurons, parasympathetic neurons, association neurons, and central nervous system neurons. “Glial cells” useful in the present invention include, but are not limited to astrocytes, schwann cells,

and oligodendrocytes. "Neural inflammatory cells" useful in the present invention include, but are not limited to microglia. Preferably, "nerve tissue" as used herein refers to nerve cells obtained from the dorsal root ganglion, or dorsal horn of the spinal cord.

As used herein, "sensory neuron" refers to any sensory neuron in an animal. A "sensory neuron" can be a peripheral sensory neuron, central sensory neuron, or enteric sensory neuron. A "sensory neuron" includes all parts of a neuron including, but not limited to the cell body, axon, and dendrite(s). A "sensory neuron" refers to a neuron which receives and transmits information (encoded by a combination of action potentials, neurotransmitters and neuropeptides) relating to sensory input, including, but not limited to pain, heat, touch, cold, pressure, vibration, etc. Examples of "sensory neurons" include, but are not limited to dorsal root ganglion neurons, dorsal horn neurons of the spinal cord, autonomic neurons, trigeminal ganglion neurons, and the like.

As used herein, "animal" refers to a organism classified within the phylogenetic kingdom Animalia. As used herein, an "animal" also refers to a mammal. Animals, useful in the present invention, include, but are not limited to mammals, marsupials, mice, dogs, cats, cows, humans, deer, horses, sheep, livestock, and the like.

As used herein, "subjected" refers to a state of being in which an animal is experiencing pain, wherein whether or not the animal is experiencing pain is determined using the behavioral, electrophysiological, and/or neurochemical criteria described above. As used herein, "subjected" does not refer to the past experience of pain only, but can also include the present experience of pain.

As used herein, "polynucleotide" refers to a polymeric form of nucleotides of 2 up to 1,000 bases in length, or even more, either ribonucleotides or deoxyribonucleotides or a modified form of either type of nucleotide. The term includes single and double stranded forms of DNA. The term is synonymous with "oligonucleotide". Polynucleotides of the invention include those indicated by accession number in Tables 1, 2, 3, 4, or 5, or a portion thereof.

As used herein, "polypeptide" refers to any kind of polypeptide such as peptides, human proteins, fragments of human proteins, proteins or fragments of proteins from non-human sources, engineered versions proteins or fragments of proteins, enzymes, antigens, drugs, molecules involved in cell signalling, such as receptor molecules, antibodies, including

polypeptides of the immunoglobulin superfamily, such as antibody polypeptides or T-cell receptor polypeptides. Preferably, a "polypeptide" useful according to the invention is indicated by accession number in Tables 1, 2, 3, 4, or 5. Also included, are a fragment, domain, or epitope of one or more of the polypeptides indicated in Tables 2, 3, 4, or 5 provided that the fragment, domain, or epitope maintains the same function as the protein indicated in Table 2, 3, 4, or 5, wherein the function of the polypeptide is known to those of skill in the art. Also included, are a fragment, domain, or epitope of one or more of the polypeptides indicated in Tables 2 or 3 provided that the fragment, domain, or epitope maintains the same function as the protein indicated in Table 2 or 3, under the column heading "identifier", "description" or "protein type"

As used herein, the term "vector" refers to a nucleic acid molecule capable of transporting another nucleic acid to which it has been linked. One type of vector is a "plasmid", which refers to a circular double stranded nucleic acid loop into which additional nucleic acid segments can be ligated. Another type of vector is a "viral vector", wherein additional nucleic acid segments can be ligated into the viral genome. Certain vectors are capable of autonomous replication in a host cell into which they are introduced (e.g., bacterial vectors having a bacterial origin of replication and episomal mammalian vectors). Other vectors (e.g., non-episomal mammalian vectors) are integrated into the genome of a host cell upon introduction into the host cell, and thereby are replicated along with the host genome. Moreover, certain vectors are capable of directing the expression of genes to which they are operatively linked. Such vectors are referred to herein as "expression vectors". In general, expression vectors of utility in recombinant nucleic acid techniques are often in the form of plasmids. In the present specification, "plasmid" and "vector" can be used interchangeably as the plasmid is the most commonly used form of vector. However, the invention is intended to include such other forms of expression vectors, such as viral vectors (e.g., replication defective retroviruses, adenoviruses and adeno-associated viruses), which serve equivalent functions.

As used herein, the term "hybridizing" or "hybridization" refers to the hydrogen binding with a complementary nucleic acid, via an interaction between for example, a target nucleic acid sequence and a nucleic acid member in an array.

Typically, selective hybridization occurs when two nucleic acid sequences are substantially complementary (at least about 65% complementary over a stretch of at least 14

to 25 nucleotides, preferably at least about 75%, more preferably at least about 90% complementary). See Kanehisa, M., 1984, *Nucleic Acids Res.* 12: 203, incorporated herein by reference. As a result, it is expected that a certain degree of mismatch is tolerated. Such mismatch may be small, such as a mono-, di- or tri-nucleotide. Alternatively, a region of mismatch may encompass loops, which are defined as regions in which there exists a mismatch in an uninterrupted series of four or more nucleotides.

Numerous factors influence the efficiency and selectivity of hybridization of two nucleic acids, for example a nucleic acid member to a target nucleic acid sequence. These factors include nucleic acid member length, nucleotide sequence and/or composition, hybridization temperature, buffer composition and potential for steric hindrance in the region to which the nucleic acid member is required to hybridize.

A positive correlation exists between the nucleic acid member length and both the efficiency and accuracy with which a nucleic acid member will anneal to a target sequence. In particular, longer sequences have a higher melting temperature ( $T_M$ ) than do shorter ones, and are less likely to be repeated within a given target sequence, thereby minimizing promiscuous hybridization. Hybridization temperature varies inversely with nucleic acid member annealing efficiency, as does the concentration of organic solvents, e.g., formamide, that might be included in a hybridization mixture, while increases in salt concentration facilitate binding. Under stringent annealing conditions, longer nucleic acids, hybridize more efficiently than do shorter ones, which are sufficient under more permissive conditions. As herein used, the term "standard stringent conditions" means hybridization will occur only if there is at least 95% and preferably at least 97% identity between the sequences, wherein the region of identity comprises at least 10 nucleotides. In one embodiment, the sequences hybridize under stringent conditions following incubation of the sequences overnight at 42°C, followed by stringent washes (0.2X SSC at 65° C). As several factors affect the stringency of hybridization, the combination of parameters is more important than the absolute measure of a single factor.

As defined herein, an "array" refers a plurality of unique nucleic acids attached to one surface of a solid support at a density exceeding 20 different nucleic acids/cm<sup>2</sup> wherein each of the nucleic acids is attached to the surface of the solid support in a non-identical preselected region. In one embodiment, the nucleic acid attached to the surface of the solid support is DNA. In a preferred embodiment, the nucleic acid attached to the surface of the



solid support is cDNA. In another preferred embodiment, the nucleic acid attached to the surface of the solid support is cDNA synthesized by polymerase chain reaction (PCR). Preferably, a nucleic acid comprising an array, according to the invention, is at least 20 nucleotides in length. Preferably, a nucleic acid comprising an array is less than 6,000 nucleotides in length. More preferably, a nucleic acid comprising an array is less than 500 nucleotides in length. In one embodiment, the array comprises at least 500 different nucleic acids attached to one surface of the solid support. In another embodiment, the array comprises at least 10 different nucleic acids attached to one surface of the solid support. In yet another embodiment, the array comprises at least 10,000 different nucleic acids attached to one surface of the solid support. The term "nucleic acid", as used herein, is interchangeable with the term "polynucleotide".

As used herein, "plurality" refers to more than two. Plurality, according to the invention, can be 3 or more, 100 or more, or 1000 or more.

As used herein, "attaching" or "spotting" refers to a process of depositing a nucleic acid onto a solid substrate to form a nucleic acid array such that the nucleic acid is irreversibly bound to the solid substrate via covalent bonds, hydrogen bonds or ionic interactions.

As used herein, "stably associated" refers to a nucleic acid that is irreversibly bound to a solid substrate to form an array via covalent bonds, hydrogen bonds or ionic interactions such that the nucleic acid retains its unique preselected position relative to all other nucleic acids that are stably associated with an array, or to all other preselected regions on the solid substrate under conditions wherein an array is analyzed (i.e., hybridization and scanning).

As used herein, "solid substrate" or "solid support" refers to a material having a rigid or semi-rigid surface. The terms "substrate" and "support" are used interchangeable herein with the terms "solid substrate" and "solid support". The solid support may be biological, non-biological, organic, inorganic, or a combination of any of these, existing as particles, strands, precipitates, gels, sheets, tubing, spheres, containers, capillaries, pads, slices, films, plates, slides, etc. Often, the substrate is a silicon or glass surface, (poly)tetrafluoroethylene, (poly)vinylidenedifluoride, polystyrene, polycarbonate, a charged membrane, such as nylon 66 or nitrocellulose, or combinations thereof. In a preferred embodiment, the solid support is glass. Preferably, at least one surface of the substrate will be substantially flat. Preferably,

the surface of the solid support will contain reactive groups, including, but not limited to, carboxyl, amino, hydroxyl, thiol, or the like. In one embodiment, the surface is optically transparent.

As used herein, "preselected region", "predefined region", or "unique position" refers to a localized area on a substrate which is, was, or is intended to be used for the deposit of a nucleic acid and is otherwise referred to herein in the alternative as a "selected region" or simply a "region." The preselected region may have any convenient shape, e.g., circular, rectangular, elliptical, wedge-shaped, etc. In some embodiments, a preselected region is smaller than about 1 cm<sup>2</sup>, more preferably less than 1 mm<sup>2</sup>, still more preferably less than 0.5 mm<sup>2</sup>, and in some embodiments about 0.125 to 0.5 mm<sup>2</sup>.

As used herein, "unique to Table X", where "X" is one or more of 2, 3, 4, or 5, refers to a polynucleotide or polypeptide sequence which is indicated in Table X, but is not indicated in Table 1.

As used herein, the term "level of expression" refers to the measurable expression level of a given nucleic acid. The level of expression of a nucleic acid is determined by methods well known in the art. The term "differentially expressed" or "differential expression" refers to an increase or decrease in the measurable expression level of a given nucleic acid. As used herein, "differentially expressed" or "differential expression" means the difference in the level of expression of a nucleic acid is at least 1.4-fold or more in two samples used for comparison, both of which are compared to the same normal standard sample. "Differentially expressed" or "differential expression" according to the invention also means a 1.4-fold, or more, up to and including 2-fold, 5-fold, 10-fold, 20-fold, 50-fold or more difference in the level of expression of a nucleic acid in two samples used for comparison. A nucleic acid is also said to be "differentially expressed" in two samples if one of the two samples contains no detectable expression of a given nucleic acid, provided that the detectably expressed nucleic acid is expressed at +/- at least 1.4 fold. Differential expression of a nucleic acid sequence is "inhibited" the difference in the level of expression of the nucleic acid in two or more samples used for comparison is altered such that it is no longer at least a 1.4 fold difference. Absolute quantification of the level of expression of a nucleic acid may be accomplished by including a known concentration(s) of one or more control nucleic acid species, generating a standard curve based on the amount of the control

nucleic acid and extrapolating the expression level of the “unknown” nucleic acid species from the hybridization intensities of the unknown with respect to the standard curve.

Alternatively, “differential expression”, according to the invention, refers to a 1.2 fold increase or decrease in the level of expression of a nucleic acid in an animal subjected to pain compared to the level of expression in an animal not subjected to the same pain, combined with a statistical significance of  $p < 0.05$  in at least three replicate assays of gene expression. Calculation of a statistically significant 1.2 fold threshold in the increase or decrease in the difference of expression of a nucleic acid, when compared to a normal standard sample is based on a statistical analysis of triplicate array data points using, for example, a student’s t-test. “Differential expression” of a polynucleotide sequence, as used herein, is established if the expression of a sequence measured in several types of animal pain model, such as nerve injury models or an inflammation model, is increased or decreased by at least 1.2 fold in at least one of the pain models, and if the differential expression is found to be significant across three replicate analyses of differential expression in an animal pain model. Alternatively, a differentially expressed polynucleotide may be differentially expressed in several animal pain models.

The “level of expression” is measured by hybridization analysis using labeled target nucleic acids according to methods well known in the art (see, for example, Ausubel et al., Short Protocols in Molecular Biology, 3<sup>rd</sup> Ed. 1995, John Wiley and Sons, Inc.). The label on the target nucleic acid is a luminescent label, an enzymatic label, a radioactive label, a chemical label or a physical label. Preferably, the target nucleic acids are labeled with a fluorescent molecule. Preferred fluorescent labels include fluorescein, amino coumarin acetic acid, tetramethylrhodamine isothiocyanate (TRITC), Texas Red, Cy3 and Cy5.

As used herein, “differential expression” when measured using microarray hybridization as described herein, can be determined using one or more of three alternate measurements: (1) The hybridization intensity can be measured by comparing the level of hybridization of nucleic acid samples obtained from a naïve animal to the level of hybridization of nucleic acid samples from an animal subjected to any of the pain models described herein. This measurement is termed the “intensity ratio”. (2) Alternatively, a method of measuring “differential expression” is to utilize the “Affymetrix ratio” which is obtained by analyzing the hybridization levels obtained from nucleic acid samples obtained from a naïve animal and those obtained from nucleic acid samples obtained from an animal

subjected to any of the pain models described herein, using the software provided with the Affymetrix Microarray software suite (Affymetrix, Santa Clara, CA). The Affymetrix ratio can be determined by following the protocols included with the Affymetrix brand software and microarray analysis equipment. Whether measured using the intensity ratio or the Affymetrix ratio, a nucleic acid molecule of the present invention is differentially expressed if it demonstrates at least a 1.4 fold change in expression levels in an animal subjected to the neuropathic or inflammation pain as described herein relative to an animal not subjected to the same pain. (3) Preferably, "differential expression" is measured in either a nerve injury model, or inflammation pain model, or both, at multiple time points after an animal has been subjected to pain. "Differential expression" is further measured in at least three replicate samples for each time point, and for multiple pain models (e.g. nerve injury models, an inflammation models), such that a statistical evaluation may be made of the significance of the differential expression. Accordingly, a polynucleotide sequence is "differentially expressed" if it is differentially expressed by at least 1.2 fold, with a p-value of less than 0.05 across at least three replicate expression assays. The fold differential expression, when paired with the statistical analysis of at least three replicate expression assays, can be measured using either of the "intensity ratio" or "affymetrix ratio" described above.

#### DESCRIPTION OF THE DRAWINGS

Figure 1 shows the data from a representative Northern analysis performed on target nucleic acid obtained from dorsal root ganglion neurons from a rat axotomy pain model.

Figure 2 shows the *in situ* hybridization of dorsal root ganglion tissue sections with labeled oligonucleotide probes specific for SNAP, c-jun, or TrkA.

Figure 3 shows the *in situ* hybridization of dorsal root ganglion tissue sections with labeled oligonucleotide probes specific for GTPcylco, IES-JE, CCHL2A, or VGF.

#### DETAILED DESCRIPTION

The present invention is based, in part, on the discovery that the polynucleotides listed in Tables 1, 2, 3, 4, or 5 are differentially expressed by at least +/- 1.4 fold in nerve injury and/or inflammation animal pain models. While the polynucleotides listed in Table 1 have

been previously suggested to be regulated in pain models, the present invention is distinguished over the prior art in that only polynucleotides which demonstrate at least a  $\pm 1.4$  fold change in expression in a neuropathic and/or inflammation animal pain model are considered to be differentially expressed according to the invention. The invention further provides the polynucleotides listed in Tables 2, 3, 4, or 5 which are differentially expressed by at least  $\pm 1.4$  fold in a nerve injury or inflammation animal pain model, but which have not previously been suggested to be regulated in animal pain models (i.e., which are not indicate in Table 1). In addition, the invention provides the polynucleotides listed in Table 2 which have been identified herein as being differentially expressed by at least  $\pm 1.2$  fold in triplicate assays in multiple nerve injury and inflammation pain models, with a p-value of less than 0.05. The invention further provides methods for identifying nucleic acid sequences which are differentially regulated in animals that have been subjected to pain, wherein differential expression is defined as an increase or decrease of the expression of the nucleic acid sequence by at least 1.2 fold compared to the same sequence in an animal which has not been subjected to pain, in triplicate assays with a statistical significance of  $p < 0.05$ . The invention further provides methods for identifying nucleic acid sequences which are differentially regulated in animals that have been subjected to pain, wherein differential expression is defined as an increase or decrease of the expression of the nucleic acid sequence by at least 1.4 fold compared to the same sequence in an animal which has not been subjected to pain. The invention further provides methods of constructing arrays comprising isolated nucleic acid sequences which are differentially regulated in pain, and methods of screening for potential therapeutic compounds which may alter the expression of these sequences using the arrays. The invention also relates to methods for screening for candidate compounds which are capable of regulating the expression of one or more of the polynucleotide sequences of Tables 1, 2, 3, 4, or 5, or which are capable of regulating the activity of one or more of the polypeptides indicated in Table 1, 2, 3, 4, or 5, or a polypeptide encoded by one or more of the polynucleotides indicated in Table 1, 2, 3, 4, or 5, or which are capable of modulating pain in an animal. As described above, animals which have been subjected to pain include animal models of pain, in which the animal has been artificially manipulated to mimic one or more types of pain, including physiological, inflammatory, or neuropathic pain. Animals subjected to pain also include animals which have experienced pain as the result of a traumatic injury, or animals which have experienced physiological, inflammatory, or neuropathic pain not induced in the setting of an animal model.

## Pain

The present invention relates to polynucleotides which are differentially expressed in (a) an animal that is subjected to pain relative to (b) an animal not subjected to pain. According to the invention, the pain to which the animals of (a) and (b) are subjected is the same pain, that is, if a polynucleotide is differentially expressed in an axotomy pain model then the differential expression is relative to the expression of the polynucleotide in an animal which is not an axotomy pain model.

As used herein, "pain" refers to a state-dependent sensory experience generated by the activation of peripheral sensory neurons, the nociceptors. As used herein, "pain" refers to several different types of pain, including physiological or protective pain, inflammatory pain that occurs after tissue damage, and neuropathic pain which occurs after damage to the nervous system. Physiological pain is initiated by sensory nociceptor fibers innervating the peripheral tissues and activated only by noxious stimuli, and is characterized by a high threshold to mechanical and thermal stimuli and rapid, transient responses to such stimuli. Inflammatory and neuropathic pain are characterized by displays of behavior indicating either spontaneous pain, measured by spontaneous flexion, vocalization, biting, or even self mutilation, or abnormal hypersensitivity to normally innocuous stimuli or to noxious stimuli, such as mechanical or thermal stimuli. Regardless of the type of pain, as used herein "pain" can be measured using behavioral criteria, such as thermal and mechanical sensitivity, weight bearing, visceral hypersensitivity, or spontaneous locomotor activity, electrophysiological criteria, such as *in vivo* or *in vitro* recordings from primary sensory neurons and central neurons to assess changes in receptive field properties, excitability or synaptic input, or neurochemical criteria, such as changes in the expression or distribution of neurotransmitters, neuropeptides and proteins in primary sensory and central neurons, activation of signal transduction cascades, expression of transcription factors, or phosphorylation of proteins.

Behavioral criteria used to measure "pain" include, but are not limited to mechanical allodynia and hyperalgesia, and temperature allodynia and hyperalgesia. Mechanical allodynia is generally measured using a series of ascending force von Frey monofilaments. The filaments are each assigned a force which must be applied longitudinally across the filament to produce a bend, or bow in the filament. Thus the applied force which causes an animal to withdraw a limb can be measured (Tal and Bennett, 1994 *Pain* 57: 375). An animal can be said to be experiencing "pain" if the animal demonstrates a withdrawal reflex

in response to a force that is reduced by at least 30% compared to the force that elicits a withdrawal reflex in an animal which is not in "pain". In one embodiment, an animal is said to be experiencing "pain" if the withdrawal reflex in response to a force that is reduced 40%, 50%, 60%, 70%, 80%, 90% and as much as 99% compared to the force required to elicit a similar reflex in a naïve animal.

Mechanical hypersensitivity can be measured by applying a sharp object, such as a pin, to the skin of an animal with a force sufficient to indent, but not penetrate the skin. The duration of withdrawal from the sharp stimulus may then be measured, wherein an increase in the duration of withdrawal is indicative of "pain" (Decostard et al., 1998 *Pain* 76: 159). For example, an animal can be said to be experiencing "pain" if the withdrawal duration following a sharp stimulus is increased by at least 2 fold compared with an animal that is not experiencing "pain". In one embodiment, an animal is said to be experiencing "pain" if the withdrawal duration is increased by 3, 4, 5, 6, 7, 8, 9, and up to 10 fold compared to an animal not experiencing "pain".

Temperature allodynia can be measured by placing a drop of acetone onto the skin surface of an animal using an instrument such as a blunt needle attached to a syringe without touching the skin with the needle. The rapid evaporation of the acetone cools the skin to which it is applied. The duration of the withdrawal response to the cold sensation can then be measured (Choi et al., 1994 *Pain* 59: 369). An animal can be said to be in "pain" if the withdrawal duration following acetone application is increased by at least 2 fold as compared to an animal that is not experiencing "pain". According to the invention an animal can be said to be in "pain" if the withdrawal duration following thermal stimulation is increased by 4, 6, 8, 10, 12, 14, 16, 18, and up to 20 fold compared to an animal not experiencing "pain".

Temperature hyperalgesia can be measured by exposing a portion of the skin surface of an animal, such as the plantar surface of the foot, to a beam of radiant heat through a transparent perspex surface (Hargreaves et al., 1988 *Pain* 32:77). The duration of withdrawal from the heat stimulus may be measured, wherein an increase in the duration of withdrawal is indicative of "pain". An animal can be said to be experiencing "pain" if the duration of the withdrawal from the heat stimulus increases by at least 2 fold compared with an animal that is not experiencing "pain". In addition, an animal can be said to be experiencing "pain" if the duration of the withdrawal from heat stimulus is increased by 3, 4, 5, 6, 7, 8, 9, and up to 10 fold compared with an animal that is not experiencing "pain".

In addition to the behavioral criteria described above, an animal can be deemed to be experiencing "pain" by measuring electrophysiological changes, *in vitro* or *in vivo*, in primary sensory, or central sensory neurons. Electrophysiological changes can include increased neuronal excitability, changes in receptive field input, or increased synaptic input. The technique of measuring cellular physiology is well known to those of skill in the art (see, for example, Hille, 1992 *Ion channels of excitable membranes*. Sinauer Associates, Inc., Sunderland, MA). An increase in neuronal excitability may be identified, for example, by measuring an increase in the number of action potentials per unit time in a given neuron. An animal is said to be experiencing "pain" if there is at least a 2 fold increase in the action potential firing rate compared with an animal that is not experiencing "pain." In addition, an animal can be said to be experiencing "pain" if the action potential firing rate is increased by 3, 4, 5, 6, 7, 8, and up to 10 fold compared to an animal that is not experiencing "pain". An increase in synaptic input to a sensory neuron, either peripheral or central, may be identified, for example, by measuring the rate of end-plate excitatory potentials (EPSPs) recorded in from the neuron. An animal is said to be experiencing "pain" if there is at least a 2 fold, 3, 4, 5, 6, 7, 8, and up to 10 fold increase in the rate of EPSPs recorded from a given neuron compared to an animal that is not experiencing pain.

Alternatively, neurochemical criteria may be used to determine whether or not an animal is experiencing "pain". For example, an animal which has experienced "pain" will display changes in the expression or distribution of neurotransmitters, neuropeptides and protein in primary sensory and central neurons, activation of signal transduction cascades, expression of transcription factors, or phosphorylation of proteins. Gene and protein expression, and phosphorylation of proteins such as transcription factors may be measured using a number of techniques known to those of skill in the art including but not limited to PCR, Southern analysis, Northern analysis, Western analysis, immunohistochemistry, and the like. Examples of signal transduction pathway constituents which may be activated in an animal which is experiencing pain include, but are not limited to ERK, p38, and CREB. Examples of genes which may exhibit enhanced expression include immediate early genes such as *c-fos*, protein kinases such as PKC and PKA. Examples of other proteins which may be phosphorylated in an animal experiencing pain include receptors and ion channels such as the NMDA or AMPA receptors. Regardless of whether the measure is of transcription, translation or phosphorylation an animal can be said to be experiencing "pain" if one measures at least a 2 fold increase or decrease in any of these parameters compared to an



animal not experiencing pain. An animal can be further said to be experiencing "pain" if there is a 3, 4, 5, 6, 7, 8, and up to 10 fold increase in the measurement of any of the above parameters compared to an animal not experiencing "pain".

As used herein, "pain" refers to any of the behavioral, electrophysiological, or neurochemical criteria described above. In addition, "pain" can be assessed using combinations of these criteria.

As used herein, "pain" can refer to "pain" experienced by an animal as a result of accidental trauma (e.g., falling trauma, burn trauma, toxic trauma, etc.), congenital deformity or malformation, infection (e.g., inflammatory pain), or other conditions which are not within the control of the animal experiencing the "pain". Alternatively, "pain" may be inflicted onto an animal by subjecting the animal to one or more "pain models".

The present invention comprises polynucleotide sequences that are differentially expressed in nerve injury pain models, including axotomy, SNI, chronic constriction, and segmental nerve lesion, as well as inflammation pain models. It is also within the scope of the present invention that the polynucleotides described herein as being differentially expressed in nerve injury, or neuropathic pain models may be also differentially expressed in other pain models known to those of skill in the art.

As used herein, a "pain model" refers to any manipulation of an animal during which the animal experiences "pain", as defined above. "Pain models" can be classified as those that test the sensitivity of normal animals to intense or noxious stimuli. These tests include responses to thermal, mechanical, or chemical stimuli. Thermal stimuli is usually hot (42 to 55°C) and includes radiant heat to the tail (the tail flick test) radiant heat to the plantar surface of the hindpaw (the Hargreaves test, *supra*), the hotplate test, and immersion of the hindpaw or tail in hot water. Alternatively, thermal stimuli can be cold stimulus (30° to -10° C), such as immersion in cold water, acetone evaporation or cold plate tests which may be used to test cold pain responsiveness using the thresholds discussed above. The end points are latency to response and the duration of the response as well as vocalization and licking the paw, as described above. Mechanical Stimuli typically involves measurements of the threshold for eliciting a withdrawal reflex of the hindpaw to graded strength monofilament von Frey hairs wherein one can measure the force of the filament required to elicit a reflex. Alternatively, mechanical stimuli can be a sustained pressure stimulus to a paw (e.g., the Ugo Basila

analgesimeter). The duration of response to a standard pin prick can also be measured. Threshold values for identifying a stimulus that causes "pain" to the animal are described above. Chemical Stimuli typically involves the application or injection of a chemical irritant to the skin, muscle joints or internal organs like the bladder or peritoneum. Irritants can include capsaicin, mustard oil, bradykinin, ATP, formalin, or acetic acid. The outcome measures include vocalization, licking the paw, writhing or spontaneous flexion.

Alternatively, a "pain model" can be a test that measures changes in the excitability of the peripheral or central components of the pain neural pathway pain sensitization, termed "peripheral sensitization" and "central sensitization". "Peripheral Sensitization" involves changes in the threshold and responsiveness of high threshold nociceptors which can be induced by: repeated heat stimuli, or application or injection of sensitizing chemicals (e.g. prostaglandins, bradykinin, histamine, serotonin, capsaicin, mustard oil). The outcome measures are thermal and mechanical sensitivity in the area of application/stimulation using the techniques described above in behaving animals or electrophysiological measurements of single sensory fiber receptive field properties either in vivo or using isolated skin nerve preparations. "Central sensitization" involves changes in the excitability of neurons in the central nervous system induced by activity in peripheral pain fibers. "Central sensitization" can be induced by noxious stimuli (e.g., heat) chemical irritants (e.g., injection/application of capsaicin/mustard oil or formalin or electrical activation of sensory fibers). The outcome measures are: behavioral, electrophysiological, and neurochemical.

Alternatively, a "pain model" can refer to those tests that measure the effect of peripheral inflammation on pain sensitivity. The inflammation can be produced by injection of an irritant such as complete Freund's adjuvant, carrageenan, turpentine, croton oil etc into the skin, subcutaneously, into a muscle into a joint or into a visceral organ. Production of a controlled UV light burn and ischaemia can also be used. Administration of cytokines or inflammatory mediators such as lipopolysaccharide (LPS), or nerve growth factor (NGF) can mimic the effects of inflammation. The outcome of these models may also be measured as behavioral, electrophysiological, and/or neurochemical changes.

Further, a "pain model" includes those tests that mimic peripheral neuropathic pain using lesions of the peripheral nervous system. Examples of such lesions include, but are not limited to complete transection of a peripheral nerve (axotomy; Watson, 1973, *J. Physiol.* 231:41), ligation of a spinal segmental nerve (Kim and Chung, 1992, *Pain*, 50:355-63),

partial nerve injury (Seltzer, 1979, *Pain*, 29: 1061), Spared Nerve Injury model (Decosterd and Woolf, 2000, *Pain* 87:149), chronic constriction injury (Bennett, 1993 *Muscle Nerve* 16: 1040), toxic neuropathies, such as diabetes (streptozocin model), pyridoxine neuropathy, taxol, vincristine and other antineoplastic agent-induced neuropathies, ischaemia to a nerve, peripheral neuritis models (e.g., CFA applied perineurally), models of postherpetic neuralgia using HSV infection. Such neuropathic pain models are also referred to herein as a "nerve injury pain model". The outcome of these neuropathic or nerve injury "pain models" can be measured using behavioral, electrophysiological, and/or neurochemical criteria as described above.

In addition, a "pain model" refers to those tests that mimic central neuropathic pain using lesions of the central nervous system. For example, central neuropathic pain may be modeled by mechanical compressive, ischemic, infective, or chemical injury to the spinal cord of an animal. The outcome of such a model is measured using the behavioral, electrophysiological, and/or neurochemical criteria described above.

#### Identification of Nucleic Acid Sequences Differentially Expressed in Pain

In one embodiment, the present invention provides isolated nucleic acid sequences which are differentially regulated in an animal which has been subjected to neuropathic pain relative to an animal not subjected to neuropathic pain, and a method for identifying such sequences. The present invention provides a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising: hybridizing a nucleic acid sample corresponding to RNA obtained from the animal to a nucleic acid sample comprising one or more nucleic acid molecules of known identity; and measuring the hybridization of the nucleic acid sample to the one or more nucleic acid molecules of known identity, wherein a 1.4 fold difference in the hybridization of the nucleic acid sample to the one or more nucleic acid molecules of known identity relative to a nucleic acid sample obtained from an animal which has not been subjected to the same pain is indicative of the differential expression of the nucleotide sequence in an animal subjected to pain.

Alternatively, the invention provides a method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising: hybridizing at least three replicates of a nucleic acid sample corresponding to RNA obtained from the animal to at least three replicates of a nucleic acid sample comprising one or more nucleic acid molecules of known identity and measuring the hybridization of the nucleic acid sample to the one or more

nucleic acid molecules of known identity for each of said replicates. A 1.2 fold difference in the hybridization, and a p-value of less than 0.05 across the replicates, of the nucleic acid sample to the one or more nucleic acid molecules of known identity relative to a nucleic acid sample obtained from an animal which has not been subjected to pain is indicative of the differential expression of the nucleotide sequence in the animal subjected to pain

Generally, the present invention provides a method for identifying nucleic acid sequences which are differentially regulated in an animal which has been subjected to pain comprising isolating messenger RNA from an animal, generating cRNA from the mRNA sample, hybridizing the cRNA to a microarray comprising a plurality of nucleic acid molecules stably associated with discrete locations on the array, and identifying patterns of hybridization of the cRNA to the array. According to the present invention, a nucleic acid molecule which hybridizes to a given location on the array is said to be differentially regulated if the hybridization signal is at least 1.4 fold higher or lower than the hybridization signal at the same location on an identical array hybridized with a nucleic acid sample obtained from an animal that has not been subjected to pain. Alternatively, at least three independent replicate RNA samples are generated and hybridized to at least three replicate arrays, such that statistical significance may be conferred to the fold change in expression of a sequence in an animal subjected to pain relative to an animal not subjected to pain, wherein a 1.2 fold change in expression and a p-value of less than 0.05 is indicative of differential expression.

#### *Nucleic Acid Samples*

Nucleic acid samples to be examined for differentially regulated sequences may be obtained from animals using techniques that are well described in the art. In a preferred embodiment of the invention, the animal from which the nucleic acid is obtained is a pain model. In one embodiment, an animal pain model is an experimental model which tests the sensitivity of normal animals to intense or noxious stimuli. These tests include responses to thermal, mechanical, or chemical stimuli. Thermal stimuli is usually hot (42 to 55°C) and includes radiant heat to the tail (the tail flick test) radiant heat to the plantar surface of the hindpaw (the Hargreaves test, *supra*), the hotplate test, and immersion of the hindpaw or tail in hot water. Alternatively, thermal stimuli can be cold stimulus (30° to -10° C), such as immersion in cold water, acetone evaporation or cold plate tests which may be used to test cold pain responsiveness using the thresholds discussed above. The end points are latency to

response and the duration of the response as well as vocalization and licking the paw, as described above. Mechanical stimuli typically involves measurements of the threshold for eliciting a withdrawal reflex of the hindpaw to graded strength monofilament von Frey hairs wherein one can measure the force of the filament required to elicit a reflex. Alternatively, mechanical stimuli can be a sustained pressure stimulus to a paw (e.g., the Ugo Basila analgesimeter). The duration of response to a standard pin prick can also be measured. Threshold values for identifying a stimulus that causes "pain" to the animal are described above. Chemical Stimuli typically involves the application or injection of a chemical irritant to the skin, muscle joints or internal organs like the bladder or peritoneum. Irritants can include capsaicin, mustard oil, bradykinin, ATP, formalin, or acetic acid. The outcome measures include vocalization, licking the paw, writhing or spontaneous flexion. In an alternate embodiment, the animal pain model is designed to measure changes in the excitability of the peripheral or central components of the pain neural pathway pain sensitization, termed peripheral sensitization and central sensitization. Peripheral Sensitization involves changes in the threshold and responsiveness of high threshold nociceptors which can be induced by: repeated heat stimuli, or application or injection of sensitizing chemicals (e.g. prostaglandins, bradykinin, histamine, serotonin, capsaicin, mustard oil). The outcome measures are thermal and mechanical sensitivity in the area of application/stimulation using the techniques described above in behaving animals or electrophysiological measurements of single sensory fiber receptive field properties either in vivo or using isolated skin nerve preparations. Central sensitization involves changes in the excitability of neurons in the central nervous system induced by activity in peripheral pain fibers. Central sensitization can be induced by noxious stimuli (e.g., heat) chemical irritants (e.g., injection/application of capsaicin/mustard oil or formalin or electrical activation of sensory fibers). The outcome measures are: behavioral, electrophysiological, and neurochemical. In a further embodiment, the animal pain model is an experimental model that measures the effect of peripheral inflammation on pain sensitivity. The inflammation can be produced by injection of an irritant such as complete Freund's adjuvant, carrageenan, turpentine, croton oil etc into the skin, subcutaneously, into a muscle into a joint or into a visceral organ using doses and administration techniques that are well known in the art. Production of a controlled UV light burn and ischaemia can also be used. Administration of cytokines or inflammatory mediators such as lipopolysaccharide (LPS), or nerve growth factor (NGF) can mimic the effects of inflammation. The outcome of these models may also be measured as behavioral, electrophysiological, and/or neurochemical changes.

In a preferred embodiment, the animal pain model is a model that mimics peripheral neuropathic pain using lesions of the peripheral nervous system (i.e., a nerve injury model). Examples of such lesions include, but are not limited to complete transection of a peripheral nerve (axotomy; Watson, 1973, *J. Physiol.* 231:41), ligation of a spinal segmental nerve (Kim and Chung, 1992, *Pain*, 50:355-63), partial nerve injury (Seltzer, 1979, *Pain*, 29: 1061), Spared Nerve Injury model (Decosterd and Woolf, 2000, *Pain* 87:149), chronic constriction injury (Bennett, 1993 *Muscle Nerve* 16: 1040), toxic neuropathies, such as diabetes (streptozocin model), pyridoxine neuropathy, taxol, vincristine and other antineoplastic agent-induced neuropathies, ischaemia to a nerve, peripheral neuritis models (e.g., CFA applied perineurally), models of postherpetic neuralgia using HSV infection. The outcome of these neuropathic pain models can be measured using behavioral, electrophysiological, and/or neurochemical criteria as described above. Alternatively, the neuropathic animal pain model may be one which mimics central neuropathic pain using lesions of the central nervous system. For example, central neuropathic pain may be modeled by mechanical compressive, ischemic, infective, or chemical injury to the spinal cord of an animal. The outcome of such a model is measured using the behavioral, electrophysiological, and/or neurochemical criteria described above.

In a further preferred embodiment, the animal pain model is a model which mimics inflammation using injectable irritants and/or inflammatory mediators. Examples of such models include animals which are injected with, for example complete Freund's adjuvant (CFA), carrageenan, turpentine, croton oil, cytokines, lipopolysaccharide (LPS), or nerve growth factor (NGF) (Stein et al., 1988 *Pharmacol Biochem Behav* 31:445; Woolf et al., 1994, *Neuroscience*, 62: 327). The outcome of inflammation pain model can be measured using behavioral, electrophysiological, and/or neurochemical criteria as described above.

Alternatively, nucleic acid samples may be obtained from animals which are not pain models, but which have been subjected to pain as a result of traumatic injury, infection, genetic, or congenital birth defects, and the like. In addition, nucleic acid samples may be obtained from an animal which is not a pain model, and which has not been subjected to pain as a result of a traumatic injury, or infection. Such an animal is termed a "naïve" animal, and the expression of nucleic acid sequences in the naïve animal can be compared to the expression of the same nucleic acid molecules in animals subjected to pain to determine differential expression.

Nucleic acid samples, useful in the present invention for determining differential expression of nucleic acid sequences in an animal subjected to pain may be obtained from any cell of the animal. In a preferred embodiment, the nucleic acid is obtained from one or more sensory neurons of the animal. In a further preferred embodiment the nucleic acid is obtained from the primary sensory neurons of the dorsal root ganglion or dorsal horn of the spinal cord. However, nucleic acid may be obtained from other neurons including, but not limited to cranial nerve nuclei, peripheral and/or central autonomic neurons, enteric neurons, thalamic neurons, and neurons of sensory regions of the cortex such as primary sensory cortex.

Sensory neurons may be obtained from an animal using techniques that are well established in the art. For example, in embodiments where nucleic acid samples are to be obtained from rat dorsal root ganglion (DRG) neurons, rats (whether naïve or pain models) are rapidly killed by decapitation and the DRG is dissected, removed and quickly snap-frozen on a bed of crushed dry ice, or in liquid nitrogen. RNA is then extracted from the tissues, also using techniques that are well known in the art (see, for example, Ausubel *supra*). For example, the tissue is prepared by homogenization in a glass teflon homogenizer in 1 ml denaturing solution (4M guanidinium thiosulfate, 25 mM sodium citrate, pH 7.0, 0.1M 2-ME, 0.5% (w/v) N-laurylsarkosine) per 100mg tissue. Following transfer of the homogenate to a 5-ml polypropylene tube, 0.1 ml of 2 M sodium acetate, pH 4, 1 ml water-saturated phenol, and 0.2 ml of 49:1 chloroform/isoamyl alcohol are added sequentially. The sample is mixed after the addition of each component, and incubated for 15 min at 0-4°C after all components have been added. The sample is separated by centrifugation for 20 min at 10,000 x g, 4°C, precipitated by the addition of 1 ml of 100% isopropanol, incubated for 30 minutes at -20°C and pelleted by centrifugation for 10 minutes at 10,000 x g, 4°C. The resulting RNA pellet is dissolved in 0.3 ml denaturing solution, transferred to a microfuge tube, precipitated by the addition of 0.3 ml of 100% isopropanol for 30 minutes at -20°C, and centrifuged for 10 minutes at 10,000 x g at 4°C. The RNA pellet is washed in 70% ethanol, dried, and resuspended in 100-200µl DEPC-treated water or DEPC-treated 0.5% SDS (Chomczynski and Sacchi, 1987, Anal. Biochem., 162: 156).

Alternatively, total RNA may be extracted from tissues useful in the present invention using Trizol reagent (Invitrogen, Carlsbad, CA), following the manufacturers instructions.

Purity and integrity of RNA is assessed by absorbance at 260/280 nm and separation of RNA samples on a 1% agarose gel followed by inspection under ultraviolet light.

Following total RNA isolation from tissues or cell of an animal useful in the present invention, the RNA is converted to cRNA for use in array hybridization. The preparation of cRNA is well-known and well-documented in the prior art.

In an alternate embodiment, the total RNA is converted to cDNA for use in array hybridization. cDNA may be prepared according to the following method. Total cellular RNA is isolated (as described) and passed through a column of oligo(dT)-cellulose to isolate polyA RNA. The bound polyA mRNAs are eluted from the column with a low ionic strength buffer. To produce cDNA molecules, short deoxythymidine oligonucleotides (12-20 nucleotides) are hybridized to the polyA tails to be used as primers for reverse transcriptase, an enzyme that uses RNA as a template for DNA synthesis. Alternatively, mRNA species are primed from many positions by using short oligonucleotide fragments comprising numerous sequences complementary to the mRNA of interest as primers for cDNA synthesis. The resultant RNA-DNA hybrid is converted to a double stranded DNA molecule by a variety of enzymatic steps well-known in the art (Watson et al., 1992, Recombinant DNA, 2nd edition, Scientific American Books, New York).

#### *Microarray analysis*

In one embodiment, the present invention provides a method for the identification of differentially expressed nucleic acid sequences in pain in which cDNA obtained from sensory neurons of animals subjected to pain is hybridized to a polynucleotide microarray of known genes or ESTs and the hybridization levels of the cDNA to the polynucleotide microarray are measured.

Microarrays, useful in the identification of differentially expressed nucleic acid sequences, may be any microarray known in the art which comprises known sequences. A polynucleotide microarray refers to a plurality of unique nucleic acids attached to one surface of a solid support at a density exceeding 20 different nucleic acids/cm<sup>2</sup> wherein each of the nucleic acids is attached to the surface of the solid support in a non-identical preselected region. In one embodiment, the nucleic acid attached to the surface of the solid support is DNA. In a preferred embodiment, the nucleic acid attached to the surface of the solid support is cDNA. In another preferred embodiment, the nucleic acid attached to the surface of the



solid support is cDNA synthesized by polymerase chain reaction (PCR). Preferably, a nucleic acid comprising an array, according to the invention, is at least 20 nucleotides in length. Preferably, a nucleic acid comprising an array is less than 6,000 nucleotides in length. More preferably, a nucleic acid comprising an array is less than 500 nucleotides in length. In one embodiment, the array comprises at least 500 different nucleic acids attached to one surface of the solid support. In another embodiment, the array comprises at least 10 different nucleic acids attached to one surface of the solid support. In yet another embodiment, the array comprises at least 10,000 different nucleic acids attached to one surface of the solid support.

In a preferred embodiment, the microarray comprises known nucleic acid molecules stably associated with discrete predefined regions, and which are obtained from an animal of the same species as the animal which had been subjected to pain and from which the nucleic acid sample to be tested is obtained. In a preferred embodiment, the microarray is a commercially available microarray which may be obtained from a commercial source such as Affymetrix (Santa Clara, CA). For example, in one embodiment nucleic acid samples are obtained from a rat pain model and are hybridized to a polynucleotide microarray comprising known rat gene sequences and ESTs. In a further preferred embodiment, the microarray is an Affymetrix Gene Chip® array including, but not limited to the human U95 array, the murine U74 array, and the rat U34 array.

In one embodiment three independent replicate nucleic acid samples are prepared from three separate pain model animals (for tissues with a low abundance of nerve cells, such as the DRG, samples from several animals may be pooled to generate a single replicate) are hybridized to at least three replicate polynucleotide arrays, such that a statistical analysis may be performed on the resulting hybridization levels.

#### *Sample preparation*

Prior to hybridization of nucleic acid to the polynucleotide microarray, the nucleic acid samples must be prepared to facilitate subsequent detection of hybridization. The nucleic acid samples obtained from animals that have been subjected to pain (and from naïve animals for the determination of differential expression) are referred to as "probes" for the microarray and are capable of binding to a polynucleotide or nucleic acid member of

complementary sequence through one or more types of chemical bonds; usually through complementary base pairing, usually through hydrogen bond formation.

As used herein, a polynucleotide derived from an mRNA transcript refers to a polynucleotide for which synthesis of the mRNA transcript or a subsequence thereof has ultimately served as a template. Thus, a cDNA reverse transcribed from an mRNA, an RNA transcribed from that cDNA, a DNA amplified from the cDNA, an RNA transcribed from the amplified DNA, etc., are all derived from the mRNA transcript and detection of such derived products is indicative of the presence and/or abundance of the original transcript in a sample. Thus, suitable target nucleic acid samples include, but are not limited to, mRNA transcripts of a gene or genes, cDNA reverse transcribed from the mRNA, cRNA transcribed from the cDNA, DNA amplified from a gene or genes, RNA transcribed from amplified DNA, and the like. The polynucleotide probes used herein are preferably derived from sensory neurons of an animal that has been subjected to pain.

In the simplest embodiment, such a polynucleotide probe comprises total mRNA or a nucleic acid sample corresponding to mRNA (e.g., cDNA) isolated from sensory neurons, ganglia, nuclei, or brain tissue. In another embodiment, the total mRNA is isolated from a given sample using, for example, an acid guanidinium-phenol-chloroform extraction method and polyA<sup>+</sup> mRNA is isolated by oligo dT column chromatography or by using (dT)<sub>n</sub> magnetic beads (see, e.g., Sambrook et al., *Molecular Cloning: A Laboratory Manual* (2nd ed.), Vols. 1-3, Cold Spring Harbor Laboratory, (1989), or *Current Protocols in Molecular Biology*, F. Ausubel et al., ed. Greene Publishing and Wiley-Interscience, New York (1987)). In a preferred embodiment, total RNA is extracted using TRIzol reagent (GIBCO/BRL). Purity and integrity of RNA is assessed by absorbance at 260/280nm and agarose gel electrophoresis followed by inspection under ultraviolet light.

In some embodiments, it is desirable to amplify the probe nucleic acid sample prior to hybridization, for example, when total RNA is obtained from a small population of neurons. One of skill in the art will appreciate that whatever amplification method is used, if a quantitative result is desired, care must be taken to use a method that maintains or controls for the relative frequencies of the amplified polynucleotides. Methods of "quantitative" amplification are well known to those of skill in the art. For example, quantitative PCR involves simultaneously co-amplifying a known quantity of a control sequence using the same primers. This provides an internal standard that may be used to calibrate the PCR

reaction. The high density array may then include probes specific to the internal standard for quantification of the amplified polynucleotide. Detailed protocols for quantitative PCR are provided in PCR Protocols, A Guide to Methods and Applications, Innis et al., Academic Press, Inc. N.Y., (1990).

Other suitable amplification methods include, but are not limited to polymerase chain reaction (PCR) (Innis, et al., PCR Protocols. A guide to Methods and Application. Academic Press, Inc. San Diego, (1990)), ligase chain reaction (LCR) (see Wu and Wallace, Genomics, 4: 560 (1989), Landegren, et al., Science, 241: 1077 (1988) and Barringer, et al., Gene, 89: 117 (1990), transcription amplification (Kwoh, et al., Proc. Natl. Acad. Sci. USA, 86: 1173 (1989)), and self-sustained sequence replication (Guatelli, et al., Proc. Nat. Acad. Sci. USA, 87: 1874 (1990)).

In a particularly preferred embodiment, the probe nucleic acid sample mRNA is reverse transcribed with a reverse transcriptase and a primer consisting of oligo dT and a sequence encoding the phage T7 promoter to provide single stranded DNA template. The second DNA strand is polymerized using a DNA polymerase. After synthesis of double-stranded *cDNA*, T7 RNA polymerase is added and RNA is transcribed from the *cDNA* template. Successive rounds of transcription from each single *cDNA* template results in amplified RNA. Methods of in vitro polymerization are well known to those of skill in the art (see, e.g., Sambrook, supra.) and this particular method is described in detail by Van Gelder, et al., Proc. Natl. Acad. Sci. USA, 87: 1663-1667 (1990) who demonstrate that in vitro amplification according to this method preserves the relative frequencies of the various RNA transcripts. Moreover, Eberwine et al. Proc. Natl. Acad. Sci. USA, 89: 3010-3014 provide a protocol that uses two rounds of amplification via in vitro transcription to achieve greater than  $10^6$  fold amplification of the original starting material thereby permitting expression monitoring even where biological samples are limited.

In order to measure the hybridization of a probe nucleic acid to a polynucleotide array to determine differential expression, the probe nucleic acid is preferable labeled with a detectable label. Any analytically detectable marker that is attached to or incorporated into a molecule may be used in the invention. An analytically detectable marker refers to any molecule, moiety or atom which is analytically detected and quantified.

Detectable labels suitable for use in the present invention include any composition detectable by spectroscopic, photochemical, biochemical, immunochemical, electrical, optical or chemical means. Useful labels in the present invention include biotin for staining with labeled streptavidin conjugate, magnetic beads (e.g., Dynabeads<sup>TM</sup>), fluorescent dyes (e.g., fluorescein, texas red, rhodamine, green fluorescent protein, and the like), radiolabels (e.g., <sup>3</sup>H, <sup>125</sup>I, <sup>35</sup>S, <sup>14</sup>C, or <sup>32</sup>P), enzymes (e.g., horse radish peroxidase, alkaline phosphatase and others commonly used in an ELISA), and colorimetric labels such as colloidal gold or colored glass or plastic (e.g., polystyrene, polypropylene, latex, etc.) beads. Patents teaching the use of such labels include U.S. Pat. Nos. 3,817,837; 3,850,752; 3,939,350; 3,996,345; 4,277,437; 4,275,149; and 4,366,241.

Means of detecting such labels are well known to those of skill in the art. Thus, for example, radiolabels may be detected using photographic film or scintillation counters, fluorescent markers may be detected using a photodetector to detect emitted light. Enzymatic labels are typically detected by providing the enzyme with a substrate and detecting the reaction product produced by the action of the enzyme on the substrate, and colorimetric labels are detected by simply visualizing the colored label.

The labels may be incorporated by any of a number of means well known to those of skill in the art. However, in a preferred embodiment, the label is simultaneously incorporated into the probe during the amplification step in the preparation of the probe polynucleotides. Thus, for example, polymerase chain reaction (PCR) with labeled primers or labeled nucleotides will provide a labeled amplification product. In a preferred embodiment, transcription amplification, as described above, using a labeled nucleotide (e.g. fluorescein-labeled UTP and/or CTP) incorporates a label into the transcribed polynucleotides.

Alternatively, a label may be added directly to the original polynucleotide sample (e.g., mRNA, polyA mRNA, cDNA, etc.) or to the amplification product after the amplification is completed. Means of attaching labels to polynucleotides are well known to those of skill in the art and include, for example nick translation or end-labeling (e.g. with a labeled RNA) and subsequent attachment (ligation) of a polynucleotide linker joining the sample polynucleotide to a label (e.g., a fluorophore).

In a preferred embodiment, the fluorescent modifications are by cyanine dyes e.g. Cy-3/Cy-5 dUTP, Cy-3/Cy-5 dCTP (Amersham Pharmacia) or alexa dyes (Khan, J., Simon, R.,

Bittner, M., Chen, Y., Leighton, S. B., Pohida, T., Smith, P. D., Jiang, Y., Gooden, C. C.; Trent, J. M. & Meltzer, P. S. (1998) *Cancer Res.* 58, 50095013.).

In a preferred embodiment, a probe nucleic acid obtained from an animal that has been subjected to pain and a nucleic acid sample obtained from an animal not subjected to pain are co-hybridized to the polynucleotide array. In this embodiment, the two probe samples used for comparison are labeled with different fluorescent dyes which produce distinguishable detection signals, for example, probes made from an animal pain model are labeled with Cy5 and probes made from a naïve animal are labeled with Cy3. The differently labeled target samples are hybridized to the same microarray simultaneously. In a preferred embodiment, the labeled targets are purified using methods known in the art, e.g., ethanol purification or column purification.

In a preferred embodiment, the probes will include one or more control molecules which hybridize to control sequences on the microarray to normalize signals generated from the microarray. Labeled normalization targets are polynucleotide sequences that are perfectly complementary to control oligonucleotides that are spotted onto the microarray. The signals obtained from the normalization controls after hybridization provide a control for variations in hybridization conditions, label intensity, "reading" efficiency and other factors that may cause the signal of a perfect hybridization to vary between arrays. In a preferred embodiment, signals (e.g., fluorescence intensity) read from all other probes in the array are divided by the signal (e.g., fluorescence intensity) from the control probes thereby normalizing the measurements.

Preferred normalization probes are selected to reflect the average length of the other probes present in the sample, however, they are selected to cover a range of lengths. The normalization control(s) can also be selected to reflect the (average) base composition of the other probes in the array, however in a preferred embodiment, only one or a few normalization probes are used and they are selected such that they hybridize well (i.e. no secondary structure) and do not match any other probe molecules.

#### *Hybridization to polynucleotide arrays*

To determine the differential expression of a nucleic acid sequence in an animal subjected to pain, labeled probe nucleic acids are hybridized to a polynucleotide array comprising polynucleotides of known sequence or identity. Polynucleotide hybridization

involves providing a denatured probe and target polynucleotide under conditions where the probe nucleic acid member and its complementary target can form stable hybrid duplexes through complementary base pairing. The polynucleotides that do not form hybrid duplexes are then washed away leaving the hybridized polynucleotides to be detected, typically through detection of an attached detectable label. It is generally recognized that polynucleotides are denatured by increasing the temperature or decreasing the salt concentration of the buffer containing the polynucleotides. Under low stringency conditions (e.g., low temperature and/or high salt) hybrid duplexes (e.g., DNA:DNA, RNA:RNA, or RNA:DNA) will form even where the annealed sequences are not perfectly complementary. Thus specificity of hybridization is reduced at lower stringency. Conversely, at higher stringency (e.g., higher temperature or lower salt) successful hybridization requires fewer mismatches.

The invention provides for hybridization conditions comprising the Dig (digoxigenin) hybridization mix (Boehringer); or formamide-based hybridization solutions, for example as described in Ausubel et al., *supra* and Sambrook et al. *supra*.

Alternatively, as described above, a preferred embodiment of the present invention comprises hybridizing probe nucleic acid molecules to an Affymetrix Gene Chip®. In this embodiment, hybridization of the probe nucleic acid molecules to the polynucleotide array is carried out according to the manufacturers instructions.

Methods of optimizing hybridization conditions are well known to those of skill in the art (see, e.g., *Laboratory Techniques in Biochemistry and Molecular Biology*, Vol. 24: *Hybridization With Polynucleotide Probes*, P. Tijssen, ed. Elsevier, N.Y., (1993)).

Following hybridization, non-hybridized labeled or unlabeled polynucleotide is removed from the support surface, conveniently by washing, thereby generating a pattern of hybridized probe polynucleotide on the substrate surface. A variety of wash solutions are known to those of skill in the art and may be used. The resultant hybridization patterns of labeled, hybridized oligonucleotides and/or polynucleotides may be visualized or detected in a variety of ways, with the particular manner of detection being chosen based on the particular label of the test polynucleotide, where representative detection means include scintillation counting, autoradiography, fluorescence measurement, calorimetric measurement, light emission measurement and the like. In the preferred embodiment, in

which the probe nucleic acid is hybridized to an Affymetrix Gene Chip®, the hybridization pattern of the probe nucleic acid molecules is detected and measured according to the Affymetrix protocol, and using Affymetrix instrumentation.

Following hybridization and any washing step(s) and/or subsequent treatments, as described above, the resultant hybridization pattern is detected. In detecting or visualizing the hybridization pattern, the intensity or signal value of the label will be not only be detected but quantified, by which is meant that the signal from each spot of the hybridization will be measured and compared to a unit value corresponding to the signal emitted by a known number of end labeled target polynucleotides to obtain a count or absolute value of the copy number of each end-labeled target that is hybridized to a particular spot on the array in the hybridization pattern.

#### *Expression analysis*

Methods for analyzing the data collected from hybridization to arrays are well known in the art. For example, where detection of hybridization involves a fluorescent label, data analysis can include the steps of determining fluorescent intensity as a function of substrate position from the data collected, removing outliers, i.e., data deviating from a predetermined statistical distribution, and calculating the relative binding affinity of the test polynucleotides from the remaining data. The resulting data is displayed as an image with the intensity in each region varying according to the binding affinity between associated oligonucleotides and/or polynucleotides and the test polynucleotides.

According to the present invention, there are three sets of measurements which may be used to determine differential expression of a polynucleotide obtained from an animal subjected to pain relative to an animal not subjected to pain. In one embodiment, differential expression may be determined by measuring the intensity ratio, as defined above, wherein a +/- 1.4 fold change or greater in the intensity ratio is indicative of differential expression. In a preferred embodiment, differential expression may be determined by measuring the Affymetrix ratio using the software suite and manufacturers protocols, available from Affymetrix (Santa Clara, CA), wherein a change in expression of +/- 1.4 fold or greater is indicative of differential expression.

In another preferred embodiment, differential expression of sequences can be established if they are differentially expressed by at least 1.2 fold, with a p-value of less than

0.05, in a statistical analysis of triplicate array data points using an appropriate statistical analysis, such as the student's t-test.

For example, Table 2 represents a composite of all those genes which were originally identified as differentially regulated by at least 1.4 fold in either SNI or axotomy pain models. Differential expression was subsequently evaluated in at least three replicate arrays using at least three replicate nucleic acid samples obtained from the animal nerve injury and inflammation pain models. From the replicate screening method, polynucleotide sequences can be identified as differentially expressed which have a lower fold change (i.e., lower than 1.4 fold) in expression in an animal subjected to pain, provided that a statistical analysis of the replicate data yields a p-value of less than 0.05. Tables 6 and 7 below show an example of an experimental replicate scheme which may be used to obtain the data shown in Table 2. The animal pain model is indicated in the column labeled "animal model", and the elapsed time following the generation of the pain model (i.e., time post surgery) is indicated. Experiments can be performed on samples obtained from both dorsal horn (Table 6) and DRG (Table 7) tissues.

<b>Table 6. Affimetrix microarray experiments</b>						
<b>Animal Model</b>	<b>Time Points</b>				<b># hybridization exp</b>	<b>Total # hybr.</b>
<b>CCI DH</b>	<b>3d</b>	<b>7d</b>	<b>21d</b>	<b>40d</b>	<b>4x3</b>	<b>12</b>
<b>Chung DH</b>	<b>3d</b>	<b>7d</b>	<b>21d</b>	<b>40d</b>	<b>4x3</b>	<b>12</b>
<b>SNI DH</b>	<b>3d</b>	<b>7d</b>	<b>21d</b>	<b>40d</b>	<b>4x3</b>	<b>12</b>
<b>Sham CCI=SNI DH</b>	<b>3d</b>	<b>7d</b>	<b>21d</b>	<b>none</b>	<b>3x3</b>	<b>9</b>
<b>Sham Chung DH</b>	<b>3d</b>	<b>7d</b>	<b>21d</b>	<b>none</b>	<b>3x3</b>	<b>9</b>
<b>Naïve DH</b>					<b>1x3</b>	<b>3</b>
						<b>Total</b>
						<b>57</b>
<b>CFA injec. DH</b>	<b>12h</b>	<b>24h</b>	<b>5d</b>		<b>3x3</b>	<b>9</b>
						<b>Total</b>
						<b>67</b>

DH = dorsal horn of the spinal cord

CCI = chronic constriction of the sciatic nerve

Chung = ligation of the spinal nerves L5 and L6 (lumbar region) distal to the correspondent dorsal root ganglions



SNI = spare nerve injury model (ligation and axotomy of the tibial and peroneal nerves)

CFA = injection in the paw of complete Freund's adjuvant (inflammatory pain model)

Table 7. Affimetrix microarray experiments					
Animal Model	Time Points				# hybridization exp
CCI DRG L4	3d	7d	21d	40d	4x3
Chung DRG L4	3d	7d	21d	40d	4x3
SNI DRG L4	3d	7d	21d	40d	4x3
CCI DRG L5	3d	7d	21d	40d	4x3
Chung DRG L5	3d	7d	21d	40d	4x3
SNI DRG L5	3d	7d	21d	40d	4x3
Sham CCI=SNI L4+L5	3d	7d	21d	none	3x3
Sham Chung L4+L5	3d	7d	21d	none	3x3
Naïve L4					1x3
Naïve L5					1x3
CFA injec. DRG (L4+L5 pool)	12h	24h	5d		3x3

Total 105

DRG = dorsal root ganglion

CCI = chronic constriction of the sciatic nerve

Chung = ligation of the spinal nerves L5 and L6 (lumbar region) distal to the correspondent dorsal root ganglions

SNI = spare nerve injury model (ligation and axotomy of the tibial and peroneal nerves)

CFA = injection in the paw of complete Freund's adjuvant (inflammatory pain model)

The nerve injury pain models represented are the Spinal segmental nerve injury (Chung), Chronic Constriction Injury (CCI) and Spared Nerve Injury (SNI) models at time points 3, 7, 21 and 40 days. The inflammatory model represented is intraplantar Complete Freund's Adjuvant (CFA) injection into the hind paw at 0.5, 1 and 5 days post injection. The tissue are lumbar DRGs and dorsal horn (i.e two tissues four models, 4 time points (3 for CFA) = 30 different pain comparisons each in triplicate each compared against the appropriate control.

The following is an example of a detection protocol that may be used for the simultaneous analysis of two nucleic acid samples to be compared, wherein one sample is

obtained from primary sensory neurons of an animal pain model and the other is obtained from primary sensory neurons of a naïve animal, and wherein each sample is labeled with a different fluorescent dye, such as Cy3 and Cy5. This type of protocol would produce an intensity ratio.

Each element of the microarray is scanned for the first fluorescent color. The intensity of the fluorescence at each array element is proportional to the expression level of that nucleic acid sequence in the sample.

The scanning operation is repeated for the second fluorescent label. The ratio of the two fluorescent intensities provides a highly accurate and quantitative measurement of the relative gene expression level in the two primary sensory neuron samples.

In a preferred embodiment, fluorescence intensities of the immobilized target nucleic acid sequences can be determined from images taken with a custom confocal microscope equipped with laser excitation sources and interference filters appropriate for the Cy3 and Cy5 fluorophores. Separate scans were taken for each fluorophore at a resolution of  $225\text{ }\mu\text{m}^2$  per pixel and 65,536 gray levels. Image segmentation to identify areas of hybridization, normalization of the intensities between the two fluorophore images, and calculation of the normalized mean fluorescent values at each target are as described (Khan, J., Simon, R., Bittner, M., Chen, Y., Leighton, S. B., Pohida, T., Smith, P. D., Jiang, Y., Gooden, G. C., Trent, J. M. & Meltzer, P. S. (1998) *Cancer Res.* 58, 50095013. Chen, Y., Dougherty, E. R. & Bittner, M. L. (1997) *Biomed. Optics* 2, 364374). Normalization between the images is used to adjust for the different efficiencies in labeling and detection with the two different fluorophores. This is achieved by equilibrating to a value of (1) the signal intensity ratio of a set of internal control genes spotted on the array.

Following detection or visualization, the hybridization pattern is used to determine quantitative information about the genetic profile of the labeled probe polynucleotide sample that was contacted with the array to generate the hybridization pattern, as well as the physiological source from which the labeled probe polynucleotide sample was derived. By genetic profile is meant information regarding the types of polynucleotides present in the sample, e.g. in terms of the types of genes to which they are complementary, as well as the copy number of each particular polynucleotide in the sample. From this data, one can also derive information about the physiological source from which the target polynucleotide

sample was derived, such as the types of genes expressed in the tissue or cell which is the physiological source, as well as the levels of expression of each gene, particularly in quantitative terms.

In a particularly preferred embodiment, where it is desired to quantify the transcription level (and thereby expression) of one or more polynucleotide sequences in a sample, the probe nucleic acid sample is one in which the concentration of the mRNA transcript(s) of the gene or genes, or the concentration of the polynucleotides derived from the mRNA transcript(s), is proportional to the transcription level (and therefore expression level) of that gene. Similarly, it is preferred that the hybridization signal intensity be proportional to the amount of hybridized polynucleotide. While it is preferred that the proportionality be relatively strict (e.g., a doubling in transcription rate results in a doubling in mRNA transcript in the sample polynucleotide pool and a doubling in hybridization signal), one of skill will appreciate that the proportionality is more relaxed and even non-linear. Thus, for example, an assay where a 5 fold difference in concentration of the probe mRNA results in a 3 to 6 fold difference in hybridization intensity is sufficient for most purposes. Where more precise quantification is required appropriate controls are run to correct for variations introduced in sample preparation and hybridization as described herein. In addition, serial dilutions of "standard" probe mRNAs are used to prepare calibration curves according to methods well known to those of skill in the art. Of course, where simple detection of the presence or absence of a transcript is desired, no elaborate control or calibration is required.

For example, if a microarray nucleic acid member is not labeled after hybridization, this indicates that the gene comprising that nucleic acid member is not expressed in either sample. If a nucleic acid member is labeled with a single color, it indicates that a labeled gene was expressed only in one sample. The labeling of a nucleic acid member comprising an array with both colors indicates that the gene was expressed in both samples. Even genes expressed once per cell are detected (1 part in 100,000 sensitivity). A 1.4-fold or greater difference in expression intensity in the two samples being compared is indicative of differential expression.

#### *Verification of differential expression*

The above methods result in the identification, using polynucleotide arrays comprising polynucleotides of known sequences, of nucleic acid molecules that are differentially expressed in an animal subjected to pain. Following the initial identification of such sequences using the microarrays, however, the differential expression is validated using techniques that are well known in the art.

In one embodiment, following identification of a 1.4 fold or greater difference in hybridization intensity in the sample obtained from an animal subjected to pain relative to a naïve animal, reverse transcription PCR (RT-PCR) is performed using primers specific for the hybridizing sequence. For example, given that the identity and sequence of each nucleic acid comprising the polynucleotide array is known, if probe nucleic acid hybridizes at a given position on the array, one of skill in the art can design primers based on the sequence of the nucleic acid known to be at that position, which can then be used to amplify the known sequence from the original nucleic acid sample obtained from the animal. The technique of designing primers for PCR amplification is well known in the art. Oligonucleotide primers and probes are 5 to 100 nucleotides in length, ideally from 17 to 40 nucleotides, although primers and probes of different length are of use. Primers for amplification are preferably about 17-25 nucleotides. Primers useful according to the invention are also designed to have a particular melting temperature ( $T_m$ ) by the method of melting temperature estimation. Commercial programs, including Oligo™ (MBI, Cascade, CO), Primer Design and programs available on the internet, including Primer3 and Oligo Calculator can be used to calculate a  $T_m$  of a nucleic acid sequence useful according to the invention. Preferably, the  $T_m$  of an amplification primer useful according to the invention, as calculated for example by Oligo Calculator, is preferably between about 45 and 65° C and more preferably between about 50 and 60° C. Preferably, the  $T_m$  of a probe useful according to the invention is 7° C higher than the  $T_m$  of the corresponding amplification primers. It is preferred that, following generation of cDNA by RT-PCR, the cDNA fragment is cloned into an appropriate sequencing vector, such as a PCRII vector (TA cloning kit; Invitrogen). The identity of each cloned fragment is then confirmed by sequencing in both directions. It is expected that the sequence obtained from sequencing would be the same as the known sequence originally spotted on the polynucleotide array.

In one embodiment, following sequence confirmation of the identity of the differentially expressed polynucleotide, the differential expression of the polynucleotide in

sensory neurons of an animal subjected to pain relative to a naïve animal is confirmed by Northern analysis. Sequence confirmed cDNAs are used to produce  $^{32}\text{P}$ -labeled cDNA probes using techniques well known in the art (see, for example, Ausubel, *supra*), or commercially available kits (Prime-It Kit, Stratagene, La Jolla, CA). Northern analysis of total RNA obtained from naïve animals and animals subjected to pain is then performed using classically described techniques. For example, total RNA samples are denatured with formaldehyde / formamide and run for two hours in a 1% agarose, MOPS-acetate-EDTA gel. RNA is then transferred to nitrocellulose membrane by upward capillary action and fixed by UV cross-linkage. Membranes are pre-hybridized for at least 90 minutes and hybridized overnight at 42° C. Post hybridization washes are performed as known in the art (Ausubel, *supra*). The membrane is then exposed to x-ray film overnight with an intensifying screen at -80° C. Labeled membranes are then visualized after exposure to film. The signal produced on the x-ray film by the radiolabeled cDNA probes can then be quantified using any technique known in the art, such as scanning the film and quantifying the relative pixel intensity using a computer program such as NIH Image (National Institutes of Health, Bethesda, MD), wherein at least a 2 fold, preferably a 1.4 fold increase or decrease in the hybridization intensity of the radiolabeled probe obtained from the animal subjected to pain relative to the naïve animal validates the differential expression observed using the polynucleotide microarray.

In an alternate embodiment, the differential expression of polynucleotide sequences, first identified using the polynucleotide microarrays is verified using the Taqman™ (Perkin-Elmer, Foster City, CA) techniques, which is performed with a transcript-specific antisense probe. This probe is specific for the PCR product (e.g. a nucleic acid sequence identified using the microarray as being differentially regulated) and is prepared with a quencher and fluorescent reporter probe complexed to the 5' end of the oligonucleotide. Different fluorescent markers can be attached to different reporters, allowing for measurement of two products in one reaction. When Taq DNA polymerase is activated, it cleaves off the fluorescent reporters by its 5'-to-3' nucleolytic activity. The reporters, now free of the quenchers, fluoresce. The color change is proportional to the amount of each specific product and is measured by fluorometer; therefore, the amount of each color can be measured and the RT-PCR product can be quantified. The PCR reactions can be performed in 96 well plates so that samples derived from many individuals can be processed and measured simultaneously. The Taqman™ system has the additional advantage of not requiring gel electrophoresis and

allows for quantification when used with a standard curve. Quantitative analysis of the mRNA levels for a given gene present in the originally obtained sample from an animal subjected to pain permits a determination of the differential expression of the particular mRNA relative to that obtained from a naïve animal. A fold increase or decrease in expression of a nucleic acid sequence from an animal subjected to pain of at least 2 relative to a naïve animal is indicative of differential expression, and is sufficient to validate the differential expression first identified using the polynucleotide microarray.

In a still further embodiment, the differential expression of a polynucleotide identified using microarray analysis is verified by *in situ* hybridization. Given that the sequence of each of the nucleic acid molecules on the microarray used to identify differential expression is known, labeled cDNA or antisense RNA probes can be generated using techniques which are known in the art (Ausubel et al., *supra*). The probes are then hybridized to fixed (e.g., fixed in 4% paraformaldehyde) thin (5-50  $\mu$ m) tissue sections of, for example, the dorsal root ganglion. Briefly, prior to hybridization, the tissue sections are incubated in acetic anhydride, dehydrated in graded ethanols, and de-lipidated in chloroform. Tissue sections are then hybridized with one or more labeled probes for 24 hours at 45° C. Hybridized probe may be subsequently detected using techniques which are compatible with the label incorporated in the probe. The level of hybridization may be quantitated using any technique known to those of skill in the art. For example, the hybridization signal may be photographed, and the photograph scanned into a computer and the hybridization signal quantitated using software such as NIH Image (NIH, Bethesda, MD). The measured level of hybridization may then be correlated with the differential expression level measured using the microarray analysis.

In a further embodiment, differential expression of sequences, identified based on the 1.4 fold threshold criteria, described above, can be verified as being differentially expressed if they are differentially expressed by at least 1.2 fold, with a p-value of less than 0.05, in a statistical analysis of triplicate array data points using an appropriate statistical analysis, such as a student's t-test.

#### Differentially Expressed Polynucleotides

The present invention provides polynucleotides and genes which are differentially expressed in an animal which has been subjected to pain relative to an animal not subjected to pain, wherein the differential expression is determined using the methods described above.

Using the above methods a number of polynucleotides have been identified which are differentially expressed in an animal subjected to pain. These polynucleotides and their respective human homologs, as well as the polypeptide molecules encoded thereby are shown in Tables 1, 2, 3, 4, or 5.

Table 1 shows a group of differentially expressed polynucleotides and genes, several of which demonstrate an at least 1.4 fold change in expression in an animal subjected to pain in both axotomy and SNI pain models relative to naïve animals; indicated by the Fold Change of Axotomy/Naïve or SNI/Naïve. Those polynucleotides that are not differentially expressed by at least  $\pm 1.4$  fold are not considered to be differentially expressed according to the invention. The polynucleotides of Table 1 have been previously suggested to be involved in the mechanisms of pain and neuronal injury. The present invention, however, distinguishes these polynucleotides by providing a threshold of differential expression which is less than that previously accepted for such analysis.

Table 2 shows polynucleotides of the present invention which have been established as being differentially expressed by at least 1.4 fold in an axotomy, SNI, or inflammation animal pain model, and which have been further analyzed by triplicate analysis as shown in Tables 6 and 7. The polynucleotide sequences shown in Table 2 have been established herein as being differentially expressed by at least 1.2 fold, with a level of statistical significance of  $p < 0.05$  as determined by a student's t-test over at least three replicate assays (the replicate assay schemes are shown in Tables 6 and 7), in several animal pain models measured at several post operative time points. The nerve injury pain models represented are the Spinal segmental nerve injury (Chung), Chronic Constriction Injury (CCI) and Spared Nerve Injury (SNI) models at time points 3, 7, 21 and 40 days. The inflammatory model represented is intraplantar Complete Freund's Adjuvant (CFA) injection in to the hind paw at 0.5, 1, and 5 days post injection. The tissue are lumbar DRGs and dorsal horn (i.e two tissues four models, 4 time points (3 for CFA) = 30 different pain comparisons each in triplicate each compared against the appropriate control.

Table 3 shows polynucleotide sequences of the present invention which have been established as being differentially expressed by at least 1.4 fold, but which have not attained a statistical significance of  $p < 0.05$  according to the triplicate analysis scheme shown in Tables 6 and 7. The polynucleotide sequence shown in Table 3, however, are considered to be

“differentially expressed” according to the present invention, despite the fact that the triplicate analysis has not established a significance of  $p < 0.05$ .

Table 4 shows polynucleotides of the present invention which are upregulated by at least 1.4 fold in a rat inflammation pain model as indicated by either or both of the Intensity Ratio Naïve/SNI or Affymetrix Ratio data column, and which have not been previously suggested to be involved in the cellular response to pain.

Table 5 shows polynucleotides of the present invention which are downregulated by at least 1.4 fold in a rat inflammation pain model as indicated by either or both of the Intensity Ratio Naïve/SNI or Affymetrix Ratio data column, and which have not been previously suggested to be involved in the cellular response to pain. The data in tables 4 and 5 represents an average of the Intensity Ratios and Affymetrix Ratios obtained from inflammation pain models at 3 hours, 6 hours, 12 hours, 24 hours, 48 hours and 5 days following induction of inflammation.

As indicated in the tables, the column labeled “% homology” indicates the percent identity between the human and rat (or mouse if the rat sequence is not available) sequences. In some cases, the polynucleotide sequence indicated in Table 2, 3, 4, or 5 is an EST sequence. Accordingly, the column labeled “former identifier” indicates the accession number of the gene sequence having the closest homology, as determined by a BLAST search, to the EST sequence. The column labeled “identifier” in conjunction with the columns labeled “description” and “protein type” indicate the function of the proteins encoded by the polynucleotides of Tables 1, 2, 3, 4, or 5 and specifically indicated in Tables 2, 3, 4, or 5. The column labeled “subcellular localization” indicates the known location of the protein encoded by the polynucleotide sequences noted in the Table in specific compartments in the cell. Accordingly, those proteins which are indicated in the Table as being secreted may be useful, as described below, as protein drugs for modulating the activity of one or more proteins indicated in the table, or for treating pain as described herein. Similarly, proteins which are indicated as being integral membrane proteins may be cell surface receptors, and may be screened against candidate compounds to identify compounds which regulate their activity as described below. The columns labeled “rat gene SEQ ID No.”, “rat protein SEQ ID No.”, “human gene SEQ ID No.”, and “human protein SEQ ID No.” in Tables 2-3 indicates the SEQ ID No. corresponding to the sequence identified by the corresponding accession number.



In addition to the polynucleotides indicated in Tables 1, 2, 3, 4, or 5, the scope of the invention further includes variations, and/or mutations in the polynucleotide sequences, including SNPs and other conservative variants that do not alter the functionality of the encoded polypeptide, including sequences having at least 30% homology with the polynucleotide sequences shown in Tables 1, 2, 3, 4, or 5, but encoding a protein having the equivalent function to the protein encoded by the polynucleotide sequences shown in Tables 1, 2, 3, 4, or 5. The present invention further encompasses the human homologs to the polynucleotide sequences indicated in Tables 1, 2, 3, 4, or 5, and the polypeptide sequences encoded thereby. The invention still further encompasses the polypeptide sequences encoded by the polynucleotide sequences shown in Tables 1, 2, 3, 4, or 5. The Accession no. for the polypeptide sequence is shown in Tables 2, 3, 4, or 5 (the protein accession number is not indicated for Table 1, as all of these genes are known in the art). The present invention also encompasses a variant, domain, epitope, or fragment of the polypeptide molecules indicated in Tables 1, 2, 3, 4, or 5, provided that the variant, domain, epitope, or fragment has an equivalent function to that of the polypeptide indicated in Tables 1, 2, 3, 4, or 5 (i.e., the function for the proteins indicated in Tables)

Category	Table 1. Descriptions	Rat Gene	Axotomy			Known Regulation	Spared Nerve Injury			
			Naive Intensity	Axotomy Intensity	Fold change		NI Intensity	SNI Intensity	Fold change	
GPCR Receptors	$\alpha 2$ -adrenergic receptor	M62372	#	#		$\uparrow(32,7)$	#	#	$\Downarrow$	
	$\alpha 2$ -C4 adrenergic receptor	X57659	#	#		$\downarrow(32)$	#	(+)	$\Downarrow$	
	Angiotensin II receptor type 1 (AT1)	M74054	#	#		$\uparrow(22)$	#	#		
	Angiotensin II receptor type 2 (AT2)	D16840	#	#		$\uparrow(22)$	#	#		
	Bradykinin B1 receptor	AJ132230	++	(++)	-	$\uparrow(38)$	+	(+)		
	Bradykinin B2 receptor	X80187	#	#	$\Downarrow$	$\uparrow(38)$	#	(+)	$\Downarrow$	
	Cholecystokinin-B receptor	M98418	#	(+)	$\Downarrow$	$\uparrow(33,3)$	#	(+)	$\Downarrow$	
	Galanin receptor type 1	U30280	#	#		$\uparrow(61,67)$	#	#		
	Galanin receptor type 2	U94322	#	#		$\downarrow(54,67)$	#	#		
	NPY receptor type 1 (NPY-Y1)	Z11504	+	(+)	$\uparrow$	$\downarrow(64,37)$	+	+	-	
	$\mu$ opioid receptor (MOR)	S77863	#	#		$\downarrow(65)$	#	#		
	$\delta$ opioid receptor (DOR)	U00475	#	#		$\downarrow(66)$	#	#		
	Ligand-gated ion channel Receptors	GABA-A receptor $\alpha 2$ subunit	L08491	++	++	-	NC <sup>(28)</sup>	++	++	-
		GABA-A receptor $\gamma 2$ subunit	L08497	(+)	#	$\Downarrow$	$\downarrow(20)$	+	+	-
P2X3 receptor		X90651	++	+++	-	$\downarrow(6,62)$	+++	++	$\Downarrow$	
Vanilloid receptor 1		AF029310	++	(++)	-	$\downarrow(43)$	++	+	$\Downarrow$	
Tyrosine Kinase Receptors	p75 (low affinity nerve growth factor receptor)	U25650	#	#	$\Downarrow$	$\downarrow(66)$	#	++	-	
	GFR $\alpha$ 1 (RET ligand 1)	U87142	++	++	$\Downarrow$	$\uparrow(5)$	+	++	$\Downarrow$	
Cytokines/Growth Factors/Neuropeptides	GFR $\alpha$ 2 (RET ligand 2)	U97143	++	++	$\Downarrow$	$\downarrow(5)$	++	++	$\Downarrow$	
	TrkA (trk precursor)	M85214	+++	+++	-	$\downarrow(34,6)$	+++	++	$\Downarrow$	
	Brain-derived neurotrophic factor	D10938	+	(+)	$\Downarrow$	$\uparrow(19,33,10)$	+	+	$\uparrow$	
	$\beta$ -type calcitonin gene-related peptide	M11596	++	(+)	$\Downarrow$	$\downarrow(19,47)$	++	++	$\Downarrow$	
	$\alpha$ -type calcitonin gene-related peptide	M11597	++++	+++	$\Downarrow$	$\downarrow(47)$	+++	++	$\Downarrow$	
	Cholecystokinin precursor	X01032	#	#	$\Downarrow$	$\uparrow(56)$	#	#	$\Downarrow$	
	Basic fibroblast growth factor	M22427	#	#	$\Downarrow$	$\uparrow(19,30)$	#	#	$\Downarrow$	
	Galanin	J03624	#	+++	$\Downarrow$	$\uparrow(19,28)$	#	+++	$\Downarrow$	
	Interleukin 1- $\beta$	M98820	#	#	$\Downarrow$	$\uparrow(45)$	#	#	$\Downarrow$	
	Interleukin 6	M26745	#	#	$\Downarrow$	$\uparrow(45)$	(+)	#	$\Downarrow$	
	Nerve growth factor	E03082	(+)	#	$\Downarrow$	$\uparrow(19)$	#	#	$\Downarrow$	
	Neuropeptide Y	M15980	+	+++	$\Downarrow$	$\uparrow(19,28)$	#	+++	$\Downarrow$	
	Pituitary adenylate cyclase activating peptide(PACAP)	X80280	++	++	$\Downarrow$	$\uparrow(19,32)$	++	++	$\Downarrow$	
	Somatostatin	M25890	++	++	$\Downarrow$	$\downarrow(2)$	++	++	$\Downarrow$	
	Substance P ( $\delta$ -preprotachykinin)	X56308	++	++	$\Downarrow$	$\downarrow(2,48,47)$	++	++	$\Downarrow$	
	Tumor necrosis factor	E02488	#	#	$\Downarrow$	$\uparrow(45)$	++	++	$\Downarrow$	
	Islet Amyloid Polypeptide(IAPP)	X52820	(+)	#	-	$\downarrow(44)$	#	(+)	$\Downarrow$	

Category	Table 1. Descriptions	Rat Gene	Axotomy			Known			Spared Nerve Injury		
			Naive Intensity #	Axotomy Intensity	Fold change	Regulation	Intensity #	SNI Intensity	NI Intensity #	SNI Intensity	Fold change
Ion channels	Pancreatitis-associated protein (Reg-2)	M98049	++	(++)	AAA	↑(39)	++	++	(++)	++	AAA
	Brain sodium channel III	Y00766	+++	+++	↑	↓(29)	+++	+	+++	+	↑
	Voltage-dependent potassium channel protein	X12589	+++	+++	-	↓(17,49,53)	+++	+++	+++	+++	↑
	Voltage-gated sodium channel (SNS)	X92184	++	++	↑	↓(17,49,53)	++	++	++	++	↑
	Calcium channel α-2 subunit (CCHL2A)	M86621	+++	+++	AAA	↓(16,33)	+++	+++	+++	+++	AAA
Cell cytoskeleton	Voltage-gated Na channel α subunit (NaN)	AF059030	+++	++	↑	↓(16,33)	+++	++	+++	++	↑
	Cytoplasmic β-actin	V01217	+++	+++	-	↑(37,40)	+++	+++	+++	+++	-
	GAP-43	L21192	+++	+++	AAA	↑(19,11)	+++	+++	+++	+++	AAA
	Glial fibrillary acidic protein	AF028764	(+)	++	AAA	↑(60)	#	++	#	++	AAA
	Heavy neurofilament polypeptide (NF-H)	X13804	+++	+++	↑	↓(19,59,48)	+++	+++	+++	+++	↑
	Neurofilament protein middle (NF-M)	Z12152	+++	+++	-	↓(19,59,48)	+++	+++	+++	+++	↑
	Light molecular-weight neurofilament (NF-L)	AF031880	+++	+++	-	↓(19,59,48)	+++	+++	+++	+++	↑
	Peripherin	AF031878	+++	+++	-	↓(19,59,48)	+++	+++	+++	+++	↑
	α-tubulin	V01227	+++	+++	-	↑(19)	+++	+++	+++	+++	↑
	Tubulin	AB015946	++	++	-	↑(19,31,43)	++	+	++	+	↑
Transcription factors	Muscle LIM protein	X81193	#	(+)	AAA	↑(46)	#	+	#	+	AAA
	Leucine zipper protein (ATF3)	M63282	+++	+++	AAA	↑(35)	+++	+++	+++	+++	AAA
	c-Jun	X17163	#	#	↑	↑(27,14,35)	#	++	+	++	↑
Cell surface/ Extracellular matrix	Jun-D	D26307	#	#	↑	↑(27,14,35)	+	+	+	+	↑
	Epithelial glycoprotein (AEG)	M31173	#	(+)	↑	↑(46)	#	#	#	#	↑
	H36-α-7 integrin α-chain	X65036	+++	+++	↑	↑(58)	+++	+++	+++	+++	↑
	140-kD NCAM	X06564	(+)	(+)	-	↑(13)	#	++	#	++	↑
	Neural cell adhesion molecule L1	X59149	+++	+++	-	NC (69)	+++	+++	+++	+++	↑
Enzymes	Neuropilin	AF016286	(++)	++	-	↑(23)	++	+	++	+	↑
	Ninjurin1	U72660	#	++	-	↑(4)	++	+	++	+	↑
	Neuronal nitric oxide synthase	U67309	#	#	-	↑(31,24)	#	#	#	#	↑
Cell death / Survival	Bax-α	U59184	+++	+++	-	NC (19,23,26)	+++	+++	+++	+++	↑
	Bcl-2	L14680	(+)	++	-	↓(23,1)	+	+	+	+	↑
	Bcl-xlong	U34963	+	++	-	↓(26)	(++)	+	(++)	+	↑
	Manganese-containing superoxide dismutase (MnSOD)	Y00497	++	++	-	↑(19,59)	++	++	++	++	↑
	Heat shock protein 27	M86389	+++	+++	↑	↑(12)	+++	+++	+++	+++	↑
Metabolism	Copper-zinc containing superoxide dismutase	M21080	+++	+++	-	NC (14,69)	+++	+++	+++	+++	↑
	Cutaneous fatty acid-binding protein	S69874	+++	+++	↑	↑(13)	+++	+++	+++	+++	↑

**KEY**  
 NC = no change  
 # = below detection  
 ( ) = present only on 1 chip  
 ↑ = 1 fold  
 ↓ = 1 fold  
 AAA = 4 fold

Spared Nerve Injury			
NI	SNI	Fold	change
Intensity	Intensity		

Known	
	Regulation

Axotomy		
Naive	Axotomy	Fold
Intensity	Intensity	change

Category	Table 1. Descriptions	Rat Gene
	<div><div><div>·</div><div>↑</div><div>↑↑</div><div>↑↑↑</div></div><div><div>≤ 1.4 fold</div><div>1.4 &lt; ≤ 2 fold</div><div>2 &lt; ≤ 5 fold</div><div>&gt; 5 fold</div></div><div><div>+ = 100 - 1000</div><div>++ = 1000 - 5000</div><div>+++ = 5000 - 10,000</div><div>++++ = &gt;10,000</div></div></div>	

Table 2.

Rat gene	Rat gene SEQ ID NO:	Rat Protein	Rat protein SEQ ID NO:	Human Genes	Human gene SEQ ID NO:	Human Protein	Human protein SEQ ID NO:	% homology	Identifier	Former Identifier	Descriptions	Subcellular Localization	Protein Type
A08811	1	CAA00863	2	XM_002636	3	XP_002636	4	80	BRL-3A binding protein		A08811 cds R.norvegicus mRNA for BRL-3A binding protein		
AA108277	5	NP_038587	6	AB003334	7	Q92598	8	89	Mus musculus heat shock protein, 105 kDa (Hsp105)	NM_013559	AA108277 EST0020 rat lambda ZAPII library (C.P.Hamel) Rattus norvegicus cDNA clone pCO100 5' similar to Heat shock protein (hsp-E71), mRNA sequences [Rattus norvegicus]		
AA108277	9	NP_038587	10	AB003334	11	Q92598	12	89	Mus musculus heat shock protein, 105 kDa (Hsp105)	NM_013559	AA108277 EST0020 rat lambda ZAPII library (C.P.Hamel) Rattus norvegicus cDNA clone pCO100 5' similar to Heat shock protein (hsp-E71), mRNA sequences [Rattus norvegicus]		
AA684537	13	NP_079592	14	AF047181	15	O43674	16	88.41	Mus musculus NADH dehydrogenase (ubiquinone) 1 beta subcomplex 5 (Ndufb5), mRNA	NM_025316	AA684537 EST104885 Rat PC-12 cells, untreated Rattus sp. cDNA clone RPCAA05 5' end similar to NADH-ubiquinone oxidoreductase SGD5 subunit, mRNA sequence [Rattus sp.]		

Table 2.

AA6860 31	17	AAH06 660	18	NM_0050 06	19	P28331	20	NADH dehydrogenase (ubiquinone) Fe-S protein 1 (75kD) (Listed is rat EST and mouse hypothetical protein)	AA686031 EST109008 Rat PC-12 cells, NGF- treated (9 days) Rattus sp. cDNA clone RPNAL84 5' end similar to NADH-ubiquinone oxidoreductase 75 kDa subunit, mRNA sequence [Rattus sp.]
AA6865 79	21	AAC39 959	22	XM_02803 0		XP_028 030		Mus musculus ubiquitin- homology domain protein (Ubi1)	AA686578 EST110738 Rat PC-12 cells, NGF- treated (9 days) Rattus sp. cDNA clone RPNBL48 5' end similar to Ubiquitin-like protein NEDD-8, mRNA sequence [Rattus sp.]
AA6865 79	23	AAC39 959	24	XM_02803 0		XP_028 030		Mus musculus ubiquitin- homology domain protein (Ubi1)	AA686578 EST110738 Rat PC-12 cells, NGF- treated (9 days) Rattus sp. cDNA clone RPNBL48 5' end similar to Ubiquitin-like protein NEDD-8, mRNA sequence [Rattus sp.]

Table 2.

AA799276	25	P11507	26	M23114	27	P16615	28	91.03	Ca <sup>2+</sup> -ATPase	J04023	AA799276 EST188773 Rattus norvegicus cDNA, 5' end /clone=RHEAA03 /clone_end=5 /gb=AA799276 /gi=2862231 /ug=Rn.2305 /len=608	INTEGRAL MEMBRANE PROTEIN. SARCOPLASMIC AND ENDOPLASMIC RETICULUM	"Sarcoplasmic/endoplasmic reticulum calcium ATPase 2 (EC 3.6.3.8)(Calcium pump 2) (SERCA2) (SR Ca(2+)-ATPase 2) (Calcium-transportingATPase sarcoplasmic reticulum type, slow twitch skeletal muscleisofo"
AA799336	29	BAB28840	30	NM_005003	31	O14561	32	95.09	Homo sapiens NADH dehydrogenase (ubiquinone) 1, alpha/beta subcomplex 1 (Listed is rat EST and mouse putative protein)	AA799336	AA799336 EST188833 Rattus norvegicus cDNA, 5' end /clone=RHEAA38 /clone_end=5 /gb=AA799336 /gi=2862281 /ug=Rn.1318 /len=699		
AA799389	33	Q63941	34	XM_001501		XP_001501		95	Rab3B protein	NM_031091	AA799389 EST188886 Rattus norvegicus cDNA, 5' end /clone=RHEAA70 /clone_end=5 /gb=AA799389 /gi=2862344 /ug=Rn.3788 /len=588		Ras-related protein Rab-3B.

Table 2.

AA80141	35	P43035	36	L13385	37	P43034	38	95.62	platelet-activating factor acetylhydrolase beta subunit	AF016049	AA801441 EST190938 Rattus norvegicus cDNA, 5' end /clone_end=5 /gb=AA801441 /gi=2884396 /ug=Rn.5827 /len=520	Cytoplasmic	Platelet-activating factor acetylhydrolase IB alpha subunit (EC 3.1.1.47) (PAF acetylhydrolase 45 kDa subunit) (PAF-AH 45 kDasubunit) (PAF-AH alpha) (PAFAH alpha) (Lisencephaly-1 protein) (LIS-1).
AA933181	39	BAB60686	40	NM_014333	40	NP_055148	41		Mus musculus sglgf mRNA for spermatogenesis immunoglobulin superfamily protein	AB052293	AA933181 ESTPIM-2MF Rat Brain, Stratagene (cat.#936501) Rattus norvegicus cDNA clone pUC18/P1M-2MF 5' mRNA sequence [Rattus norvegicus]		
AA944073	42	P28751	43	BC014383	44	P28751	45	89.52	R. norvegicus mRNA for ribosomal protein L41	X82550	AA944073 EST199572 Rattus norvegicus cDNA, 5' end /clone_end=5 /gb=AA944073 /gi=3103989 /ug=Rn.2833 /len=480		60S ribosomal protein L41 (HG12).
AB000098	46	BAA24351	47	BF690363	48	No Human Protein Found.		85	MIPP65		AB000098 Rattus norvegicus mRNA for MIPP65, complete cds /cds=(18,1384) /gb=AB000098 /gi=2780407 /ug=Rn.8452 /len=1468		



Table 2.

AB0000198	49	BAA243 51	50	BF690363	51	XP_009 784	85	MIPP65	AB000088 Rattus norvegicus mRNA for MIPP65, complete cds /cds=(18,1394) /gb=AB0000088 /gi=2780407 /ug=Rn.8452 /len=1468		
AB0000198	52	BAA243 51	53	BF690363	54	No Human Protein Found.	85	MIPP65	AB000088 Rattus norvegicus mRNA for MIPP65, complete cds /cds=(18,1394) /gb=AB0000088 /gi=2780407 /ug=Rn.8452 /len=1468		
AB0000198	55	BAA243 51	56	BF690363	57	XP_009 784	85	MIPP65	AB000088 Rattus norvegicus mRNA for MIPP65, complete cds /cds=(18,1394) /gb=AB0000088 /gi=2780407 /ug=Rn.8452 /len=1468		
AB0000116	58	BAA198 89	59	AA281565	60	CAB452 39	95.02	CCA3	AB000216 Rat mRNA for CCA3, complete cds /cds=(413,3442) /gb=AB0000216 /gi=2104557 /ug=Rn.11149 /len=4514		
AB0000229	62	BAA244 87	63	M90368	64	Q05998	84.38	Zona pellucida 2 glycoprotein	AB000929 Rattus norvegicus mRNA for zona pellucida 2 glycoprotein, complete cds /cds=(18,2106) /gb=AB000929 /gi=2804567 /ug=Rn.10891 /len=2138		
AB0000211	68	O88177	67	U91521	68	O08623	87.27	peroxisome assembly factor-3 (PAF-3)	AB002111 Rattus norvegicus mRNA for peroxisome assembly factor-3 (PAF-3), complete cds	Integral membrane protein. Peroxisomal.	Peroxisome assembly protein 12 (Peroxin-12) (Peroxisome assembly factor-3) (PAF-3).
AB0000315	70	O08765	71	NM_0072 85	72	O08765	100	GEF-2	AB003515 Rat mRNA for GEF-2, complete cds /cds=(108,459) /gb=AB003515 /gi=2104568 /ug=Rn.3714 /len=963		Ganglioside expression factor 2 (GEF-2) (General protein transport factor p16) (GATE-16).
AB0000391	74	BAA201 51	75	XM_04565 5		XP_045 655	100	SNAP-25A	AB003991 rat mRNA for SNAP-25A, complete cds		
AB0000391	76	BAA201 51	77	XM_04565 5		XP_045 655	100	SNAP-25A	AB003991 rat mRNA for SNAP-25A, complete cds		
AB0000391	78	BAA201 51	79	XM_04565 5		XP_045 655	100	SNAP-25A	AB003991 rat mRNA for SNAP-25A, complete cds		

Table 2.

AB0039 91	80	BAA201 51	81	XM_04565 5	81	XP_045 655	100	SNAP-25A	AB003991 rat mRNA for SNAP-25A, complete cds
AB0039 91	82	BAA201 51	83	XM_04565 5	83	XP_045 655	100	SNAP-25A	AB003991 rat mRNA for SNAP-25A, complete cds
AB0039 91	84	BAA201 51	85	XM_04565 5	85	XP_045 655	100	SNAP-25A	AB003991 rat mRNA for SNAP-25A, complete cds
AB0039 92	86	BAA201 52	87	NM_0030 81	88	P13795	89	SNAP-25B	AB003992 Rat mRNA for SNAP-25B, complete cds
AB0039 92	90	BAA201 52	91	NM_0030 81	92	P13795	93	SNAP-25B	AB003992 Rat mRNA for SNAP-25B, complete cds
AB0040 96	94	BAA203 54	95	U23942	96	Q16850	97	Lanosterol 14- demethylase	AB004096 Rat DNA for lanosterol 14- demethylase /cds=(126,1637) /gb=AB004096 /gl=2180005 /ug=Rn.6150 /len=3083
AB0040 96	98	BAA203 54	99	U23942	100	Q16850	101	Lanosterol 14- demethylase	AB004096 Rat DNA for lanosterol 14- demethylase /cds=(126,1637) /gb=AB004096 /gl=2180005 /ug=Rn.6150 /len=3083
AB0040 96	102	BAA203 54	103	U23942	104	Q16850	105	Lanosterol 14- demethylase	AB004096 Rat DNA for lanosterol 14- demethylase /cds=(126,1637) /gb=AB004096 /gl=2180005 /ug=Rn.6150 /len=3083
AB0040 96	106	BAA203 54	107	U23942	108	Q16850	109	Lanosterol 14- demethylase	AB004096 Rat DNA for lanosterol 14- demethylase /cds=(126,1637) /gb=AB004096 /gl=2180005 /ug=Rn.6150 /len=3083
AB0042 76	110	BAA203 59	111	NM_0189 20	112	NP_061 743	113	protocadherin 4	AB004276 Rat mRNA for protocadherin 4, complete cds
AB0042 77	114	BAA203 60	115	NM_0189 28	116	NP_061 752	117	Protocadherin 5	AB004277 Rat mRNA for protocadherin 5, partial cds
AB0042 77	118	BAA203 60	119	NM_0189 29	120	NP_061 752	121	Protocadherin 5	AB004277 Rat mRNA for protocadherin 5, partial cds
AB0068 02	122	BAA220 78	123	NM_0189 14	124	NP_061 737	125	Protocadherin 6, partial cds	AB006802 Rattus rattus mRNA for protocadherin 6, partial cds
AB0068 81	126	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		PMF16	AB006881mRNA Rattus norvegicus mRNA for PMF16
AB0076 90	127	BAA324 79	128	BC012109	128	XP_054 356	130	Vest-2(delta 11)	AB007690 Rattus norvegicus mRNA for Vest- 2(delta 11), complete cds

Table 2.

AB008521	131	BAA23368	132	XM_003119	133	XP_003119	134	61	dynein light intermediate chain 53/55
AB008538	135	BAA23279	136	NM_001627	137	Q13740	138	89	HB2
AB008807	139	BAA34217	140	NM_004832	141	P78417	142	71	glutathione-dependent dehydroascorbate reductase, complete cds
AB008807	143	BAA34217	144	NM_004832	145	P78417	146	71	glutathione-dependent dehydroascorbate reductase, complete cds
AB008807	147	BAA34217	148	NM_004832	149	P78417	150	71	glutathione-dependent dehydroascorbate reductase, complete cds
AB008807	151	BAA34217	152	NM_004832	153	P78417	154	71	glutathione-dependent dehydroascorbate reductase, complete cds
AB009463	155	BAA32331	156	NM_019849	157	BAA32330	158	92.31	AB009463 Rattus norvegicus mRNA for LRp105, complete cds
AB009463	159	BAA32331	160	NM_019849	161	BAA32330	162	92.31	AB009463 Rattus norvegicus mRNA for LRp105, complete cds

AB008521 Rattus norvegicus mRNA for dynein light intermediate chain 53/55, partial cds

AB008538 Rattus norvegicus mRNA for HB2, complete cds /cds=(188,1939) /gb=AB008538 /gi=2589008 /ug=Rn.5789 /len=2866

AB008807 Rattus rattus mRNA for glutathione-dependent dehydroascorbate reductase, complete cds

AB008807 Rattus rattus mRNA for glutathione-dependent dehydroascorbate reductase, complete cds

AB008807 Rattus rattus mRNA for glutathione-dependent dehydroascorbate reductase, complete cds

AB008807 Rattus rattus mRNA for glutathione-dependent dehydroascorbate reductase, complete cds

AB008807 Rattus rattus mRNA for glutathione-dependent dehydroascorbate reductase, complete cds

AB009463 Rattus norvegicus mRNA for LRp105, complete cds

AB009463 Rattus norvegicus mRNA for LRp105, complete cds

Table 2.

AB009636	163	O70173	164	AJ000008	165	O75747	166	85.9	Phosphoinositide 3-kinase	AB009636 Rattus norvegicus mRNA for phosphoinositide 3-kinase, complete cds (cds=(110,4627) /gb=AB009636 /gi=3059226 /ug=Rn.14870 /len=5956	Membrane-associated.	Phosphatidylinositol 3-kinase C2 domain-containing gamma polypeptide (EC 2.7.1.137) (Phosphoinositide 3-kinase-C2-gamma) (PtdIns-3-kinaseC2-gamma) (PI3K-C2gamma).
AB009999	167	O35052	168	U65887	169	Q92903	170	86.11	CDP-diacylglycerol synthase	AB009999 Rattus norvegicus mRNA for CDP-diacylglycerol synthase, complete cds	Integral membrane protein . CYTOPLASMIC ASPECT OF THE ENDOPLASMIC RETICULUM	Phosphatidate cytidylyltransferase 1 (EC 2.7.7.41) (CDP-diacylglycerol synthase 1) (CDP-diacylglycerol synthase 1) (CDP-diacylglycerol synthase 1) (CDP-diacylglycerol synthase 1) (CTP:phosphatidate cytidylyltransferase 1)

Table 2.

AB00999	171	O35052	172	U65887	173	Q92803	174	86.11	CDP-diacylglycerol synthase	AB009999 Rattus norvegicus mRNA for CDP-diacylglycerol synthase, complete cds	Integral membrane protein . CYTOPLASMIC ASPECT OF THE ENDOPLASMIC RETICULUM .	Phosphatidate cytidyltransferase 1 (EC 2.7.7.41) (CDP-diacylglycerol synthase 1) (CDP-diacylglycerol synthase 1) (CDP-diacylglycerol synthase 1) (CTP:phosphatidatecytidyltransferase 1)
AB00999	175	O35052	176	U65887	177	Q92803	178	86.11	CDP-diacylglycerol synthase	AB009999 Rattus norvegicus mRNA for CDP-diacylglycerol synthase, complete cds	Integral membrane protein . CYTOPLASMIC ASPECT OF THE ENDOPLASMIC RETICULUM .	Phosphatidate cytidyltransferase 1 (EC 2.7.7.41) (CDP-diacylglycerol synthase 1) (CDP-diacylglycerol synthase 1) (CDP-diacylglycerol synthase 1) (CTP:phosphatidatecytidyltransferase 1)

Table 2.

AB009999	179	O35052	180	U65887	181	Q82803	182	86.11	CDP-diacylglycerol synthase	AB009999 Rattus norvegicus mRNA for CDP-diacylglycerol synthase, complete cds	Integral membrane protein. CYTOPLASMIC ASPECT OF THE ENDOPLASMIC RETICULUM.	Phosphatidate cytidylyltransferase 1 (EC 2.7.7.41) (CDP-diacylglycerol synthase 1) (CDP-diacylglycerol pyrophosphorylase 1) (CDP-diacylglycerol synthase 1) (CDS 1) (CTP:phosphatidate cytidylyltransferase 1)
AB010164	183	BAA36362	184	AF387637	185	P27448	186	31	Rattus norvegicus csk mRNA for serine/threonine kinase with SH3 ligand, expressed in hippocampus, complete cds	AB010164 Rattus norvegicus PKN mRNA for serine/threonine protein kinase expressed in hippocampus, partial cds		
AB010467	187	O88563	188	AK000791	189	O15438	190	92.66	Rattus norvegicus mRNA for multidrug resistance-associated protein (MRP)-like protein-2 (MLP-2), complete cds	AB010467 Rattus norvegicus mRNA for multidrug resistance-associated protein (MRP)-like protein-2 (MLP-2), complete cds	Integral membrane protein.	Canalicular multispecific organic anion transporter 2 (Multidrug resistance-associated protein 3) (MRP-like protein-2) (MLP-2).

Table 2.

AB010743	191	P56500	192	AF011449	193	P55916	194	80.26	UCP2	AB010743 Rattus norvegicus mRNA for UCP2, complete cds /cds=(344,1273) /gb=AB010743 /gi=3082842 /ug=Rn.13333 /len=1575	Integral membrane protein. Mitochondrial inner membrane.	Mitochondrial uncoupling protein 2 (UCP2).
AB010860	195	BAA24832	196	AB010961	197	BAA24833	198	86	MIFR	AB010960 Rattus norvegicus mRNA for MIFR, complete cds		
AB010860	199	BAA24832	200	AB010961	201	BAA24833	202	86	Rattus norvegicus mRNA for MIFR, complete cds	AB010960 Rattus norvegicus mRNA for MIFR, complete cds		
AB011369	203	Q82921	204	NIM_031228	205	Q8BYM8	206	79	RBCK2	AB011369 Rattus norvegicus mRNA for RBCK2, complete cds		Ubiquitin conjugating enzyme 7 interacting protein 3 (RBCK2) protein interacting with PKC).
AB011528	207	BAA32459	208	AB011536	209	XP_042739	210	88.35	MEGF2	AB011528 Rattus norvegicus mRNA for MEGF2, complete cds		
AB011528	211	BAA32459	212	AB011536	213	XP_042739	214	88.35	MEGF2	AB011528 Rattus norvegicus mRNA for MEGF2, complete cds		
AB011679	215	P05218	216	AF070561	217	P20071	218	95	class I beta-tubulin	AB011679 Rattus norvegicus mRNA for class I beta-tubulin, complete cds		Class I beta tubulin. Tubulin beta-5 chain.
AB012234	219	P70257	220	U18759	221	Q14938	222	100	NF1-X1, partial cds	AB012234 Rattus norvegicus mRNA for NF1-X1, partial cds /cds=(0,535) /gb=AB012234 /gi=2982735 /ug=Rn.9847 /len=601		
AB012234	223	P70257	224	U18759	225	Q14938	226	100	NF1-X1, partial cds	AB012234 Rattus norvegicus mRNA for NF1-X1, partial cds /cds=(0,535) /gb=AB012234 /gi=2982735 /ug=Rn.9847 /len=601		

Table 2.

AB0131 12	227	BAA336 80	228	NM_0209 80	228	O43315	230	75	Aquaporin	AB013112 Rattus rattus mRNA for aquaporin, complete cds	60S ribosomal protein L17 (L23) (Amino acid starvation-induced protein) (ASI).
AB0134 54	231	P24049	232	X53777	233	P18621	234	99	R. norvegicus ASI mRNA for mammalian equivalent of bacterial large ribosomal subunit protein L22	AB013454 Rattus norvegicus mRNA for NaPi 2 beta, complete cds	
AB0137 32	235	O70189	236	AJ007702	237	O60701	238	88.78	UDP-glucose dehydrogenase	AB013732 Rattus norvegicus mRNA for UDP-glucose dehydrogenase, complete cds /cds=(110,1591) /gb=AB013732 /gi=3133256 /ug=Rn.3987 /len=2318	UDP-glucose 6-dehydrogenase (EC 1.1.1.22) (UDP-Glc dehydrogenase) (UDP-GlcDH) (UDPGDH).
AB0147 22	239	BAA365 84	240	AI133253	241	CAA746 94		91.96	rSALT-1(806),	AB014722 Rattus norvegicus mRNA for rSALT-1(806), complete cds	
AB0147 22	242	BAA365 84	243	AI133253	244	CAA746 94		91.96	rSALT-1(806),	AB014722 Rattus norvegicus mRNA for rSALT-1(806), complete cds	
AB0151 91	245	NP_071 950	246	S82449	247	Q8UQ21	248	86.21	Rhesus blood group	AB015191 Rattus norvegicus mRNA for Rh blood group protein, complete cds	
AB0151 91	249	NP_071 950	250	S82449	251	Q8UQ21	252	86.21	Rhesus blood group	AB015191 Rattus norvegicus mRNA for Rh blood group protein, complete cds	
AB0159 46	253	Q8Z310	254	BC000619	255	P23288	256	92.57	Rattus norvegicus mRNA for tubulin, complete cds	AB015946 Rattus norvegicus mRNA for tubulin, complete cds	Centrosome . Tubulin gamma-1 chain (Gamma-1 tubulin) complex component 1 (GCP-1).



Table 2.

AB016161	257	Q8Z0U	258	AJ225028	259	Q8UBS5	260	97	Gamma-aminobutyric acid (GABA) B receptor, 1	AB016161cds Rattus norvegicus mRNA for GABAB receptor 1d, complete cds	INTEGRAL MEMBRANE PROTEIN. MOREOVER COEXPRESION OF GABA-B-R1 AND GABA-B-R2 APPEARS TO BE A PREREQUISITE FOR MATURATION AND TRANSPORT OF GABA-B-R1 TO THE PLASMA MEMBRANE.	"Gamma-aminobutyric acid type B receptor, subunit 1 precursor (GABA-B-Receptor 1) (GABA-B-R1) (Gb1)."
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Table 2.

AB016161	261	Q9Z0U4	262	AJ225028	263	Q8UBS5	264	97	Gamma-aminobutyric acid (GABA) B receptor, 1	AB016161UTR#1 Rattus norvegicus mRNA for GABAB receptor 1d, complete cds	INTEGRAL MEMBRANE PROTEIN. MOREOVER COEXPRESSION OF GABA-B-R1 AND GABA-B-R2 APPEARS TO BE A PREREQUISITE FOR MATURATION AND TRANSPORT OF GABA-B-R1 TO THE PLASMA MEMBRANE.	"Gamma-aminobutyric acid type B receptor, subunit 1 precursor (GABA-Breceptor 1) (GABA-B-R1) (Gb1)." "
AB016800	265	BAA34306	266	XM_006067		XP_006067		82	7-dehydrocholesterol reductase	AB016800 Rattus norvegicus mRNA for 7-dehydrocholesterol reductase, complete cds		
AB016800	267	BAA34306	268	XM_006067		XP_006067		82	7-dehydrocholesterol reductase	AB016800 Rattus norvegicus mRNA for 7-dehydrocholesterol reductase, complete cds		
AB016800	269	BAA34306	270	XM_006067		XP_006067		82	7-dehydrocholesterol reductase	AB016800 Rattus norvegicus mRNA for 7-dehydrocholesterol reductase, complete cds		
AB016800	271	BAA34306	272	XM_006067		XP_006067		82	7-dehydrocholesterol reductase	AB016800 Rattus norvegicus mRNA for 7-dehydrocholesterol reductase, complete cds		

Table 2.

AB017170	273	BAA35187	274	AB017167	275	BAA35184	276	96	Rattus norvegicus mRNA for Slit-1 protein, partial cds	AB017170 Rattus norvegicus mRNA for Slit-1 protein, partial cds
AB017544	277	BAA36835	278	AF045186	279	O75381	280	89.79	peroxisomal membrane anchor protein, complete cds	AB017544 Rattus norvegicus Pax14 mRNA for peroxisomal membrane anchor protein, complete cds
AB017544	281	BAA36835	282	AF045186	283	O75381	284	89.79	peroxisomal membrane anchor protein, complete cds	AB017544 Rattus norvegicus Pax14 mRNA for peroxisomal membrane anchor protein, complete cds
AB017544	285	BAA36835	286	AF045186	287	O75381	288	89.79	peroxisomal membrane anchor protein, complete cds	AB017544 Rattus norvegicus Pax14 mRNA for peroxisomal membrane anchor protein, complete cds
AB017544	289	BAA36835	290	AF045186	291	O75381	292	89.79	peroxisomal membrane anchor protein, complete cds	AB017544 Rattus norvegicus Pax14 mRNA for peroxisomal membrane anchor protein, complete cds
AB017655	293	P10980	294	NM_000739	295	NP_000730	296	89.21	Muscarinic receptor m2	AB017655 Rattus norvegicus mRNA for muscarinic receptor m2, complete cds
AB017711	297	O88828	298	NM_021974	299	P41584	300	90.98	RNA polymerase II	AB017711 Rattus norvegicus mRNA for RNA polymerase II, complete cds
									Integral membrane protein. Nuclear.	Muscarinic acetylcholine receptor M2. DNA-directed RNA polymerase II polypeptide (EC 2.7.7.6)(RPB6) (RPB14.4).

Table 2.

AB017912	301	O70436	302	U68018	303	Q15786	304	91.46	Smad2 protein	AB017912 Rattus norvegicus mRNA for Smad2 protein, complete cds	IN THE CYTOPLASM IN THE ABSENCE OF LIGAND; MIGRATION TO THE NUCLEUS WHEN COMPLEXED WITH SMAD4.	Mothers against decapentaplegic homolog 2 (SMAD 2) (Mothers against DPP homolog 2) (Mad-related protein 2).
AB017912	305	O70436	306	U68018	307	Q15786	308	91.46	Smad2 protein	AB017912 Rattus norvegicus mRNA for Smad2 protein, complete cds	IN THE CYTOPLASM IN THE ABSENCE OF LIGAND; MIGRATION TO THE NUCLEUS WHEN COMPLEXED WITH SMAD4.	Mothers against decapentaplegic homolog 2 (SMAD 2) (Mothers against DPP homolog 2) (Mad-related protein 2).
AB017912	309	O70436	310	U68018	311	Q15786	312	91.46	Smad2 protein	AB017912 Rattus norvegicus mRNA for Smad2 protein, complete cds	IN THE CYTOPLASM IN THE ABSENCE OF LIGAND; MIGRATION TO THE NUCLEUS WHEN COMPLEXED WITH SMAD4.	Mothers against decapentaplegic homolog 2 (SMAD 2) (Mothers against DPP homolog 2) (Mad-related protein 2).

Table 2.

AB017912	313	Q70436	314	U68018	315	Q15796	316	91.46	Smad2 protein	AB017912 Rattus norvegicus mRNA for Smad2 protein, complete cds	IN THE CYTOPLASM IN THE ABSENCE OF LIGAND; MIGRATION TO THE NUCLEUS WHEN COMPLEXED WITH SMAD4.	Mothers against decapentaplegic homolog 2 (SMAD 2) (Mothers against DPP homolog 2) (Mad-related protein 2).
AB018393	317	Q8R1J4	318	U85257	319	Q88972	320	82.95	myocilin	AB018393 Rattus norvegicus mRNA for myocilin, complete cds	"LOCATED PREFERENTIALLY IN THE CILIARY ROOTLET AND BASAL BODY OF THE CONNECTING CILIUM OF PHOTORECEPTOR CELLS, AND IN THE ROUGH ENDOPLASMIC RETICULUM. ALSO SECRETED."	Myocilin precursor (Trabecular meshwork-induced glucocorticoid response protein).
AB020504	321	BAA34715	322	AY008274	323	No Human Protein Found.	324	98.34	PMF31	AB020504 Rattus norvegicus mRNA for PMF31, complete cds		

Table 2.

AB020504	325	BAA34715	326	AY008274	327	No Human Protein Found.	328	98.34	PMF31	AB020504 Rattus norvegicus mRNA for PMF31, complete cds
AB020504	328	BAA34715	330	AY008274	331	No Human Protein Found.	332	98.34	PMF31	AB020504 Rattus norvegicus mRNA for PMF31, complete cds
AB020504	333	BAA34715	334	AY008274	335	No Human Protein Found.	336	98.34	PMF31	AB020504 Rattus norvegicus mRNA for PMF31, complete cds
AB022014	337	Q9Z2X3	338	AB008619	339	O75832	340	92.68	Gankyrin homologue, complete cds	AB022014 Rattus norvegicus mRNA for gankyrin homologue, complete cds
AF000114	341	P97848	342	U87223	343	P78357	344	88.14	Contactin associated protein 1	AF000114 Rattus norvegicus paranodin mRNA, complete cds /cds=(141,4286) /gb=AF000114 /gi=2228764 /ug=Rn.10703 /lan=5350
										Type I membrane protein .
										Contactin associated protein 1 precursor (Caspr) (Neurexin 4)(Neurexin IV) (p190) (Paranodin).
										26S proteasome non-ATPase regulatory subunit 10 (26S proteasome regulatory subunit p28) (Gankyrin).

Table 2.

AF000114	345	P97846	346	U87223	347	P78357	348	88.14	Contactin associated protein 1	AF000114 Rattus norvegicus paranodin mRNA, complete cds /cds=(141,4286) /gb=AF000114 /gi=2228764 /ug=Rn.10703 /len=5350	Type I membrane protein .	Contactin associated protein 1 precursor (Caspri) (Neurexin 4)(Neurexin IV) (p190) (Paranodin).
AF000368	349	AAB50403	350	X82835	351	S54771	352	87.87	Rattus norvegicus voltage-gated sodium channel mRNA (PN1)	AF000368 Rattus norvegicus voltage-gated sodium channel mRNA, complete cds /cds=(0,5954) /gb=AF000368 /gi=2501837 /ug=Rn.10831 /len=8316		
AF000368	353	AAB50403	354	X82835	355	S54771	356	87.87	Rattus norvegicus voltage-gated sodium channel mRNA (PN1)	AF000368 Rattus norvegicus voltage-gated sodium channel mRNA, complete cds /cds=(0,5954) /gb=AF000368 /gi=2501837 /ug=Rn.10831 /len=8316		
AF000423	357	O08835	358	D38522	359	Q9BT88	360	83.38	synaptotagmin XI	AF000423 Rattus norvegicus synaptotagmin XI mRNA, complete cds /cds=(242,1534) /gb=AF000423 /gi=2130631 /ug=Rn.9805 /len=2426	INTEGRAL MEMBRANE PROTEIN. SYNAPTIC VESICLES .	Synaptotagmin XI (SyxI).
AF000899	361	AAC82319	362	XM_037529		XP_037529			p58/p45 mRNA, alternatively spliced form	AF000899 RNP58S02 Rattus norvegicus p58/p45 mRNA, alternatively spliced form, clone H6, 3 end		
AF000899	363	AAC82319	364	XM_037529		XP_037529			p58/p45 mRNA, alternatively spliced form	AF000899 RNP58S02 Rattus norvegicus p58/p45 mRNA, alternatively spliced form, clone H6, 3 end		
AF000899	365	AAC82319	366	XM_037529		XP_037529			p58/p45 mRNA, alternatively spliced form	AF000899 RNP58S02 Rattus norvegicus p58/p45 mRNA, alternatively spliced form, clone H6, 3 end		

Table 2.

AF000899	387	AAC82 319	368	XM_037529	XP_037529	371	Q02535	372	88.38	p58/p45 mRNA, alternatively spliced form	AF000899 RNP58S02 Rattus norvegicus p58/p45 mRNA, alternatively spliced form, clone H6, 3' end	DNA-binding protein inhibitor ID-3.
AF000942	369	P41138	370	X66924						Inhibitor of DNA binding 3, dominant negative helix-loop-helix protein	AF000942 Rattus norvegicus Id3a mRNA, complete cds	
AF001417	373	O35819	374	U44975	Q98612	375		376	71	zinc finger protein	AF001417 Rattus norvegicus zinc finger protein mRNA, complete cds	Core promoter element-binding protein (Kruppel-like factor 6)(Transcription factor Zfp6).
AF001953	377	AAB59974	378	AF300650	O14775	379		380	99	G protein beta 5 subunit	AF001953 Rattus norvegicus G protein beta 5 subunit mRNA, partial cds	
AF001953	381	AAB59974	382	AF300650	O14775	383		384	99	G protein beta 5 subunit	AF001953 Rattus norvegicus G protein beta 5 subunit mRNA, partial cds	
AF002251	385	AAB71821	386	AK056588	NP_113625	387		388	91.04	Maxp1	AF002251 Rattus norvegicus Maxp1 mRNA, complete cds /cds=(128,1369) /gb=AF002251 /gi=2459832 /ug=Rn.10824 /len=3471	
AF002281	389	AAC16671	390	AF039018	XP_003374	391		392	86.54	alpha-actinin-2 associated LIM protein	AF002281 Rattus norvegicus alpha-actinin-2 associated LIM protein mRNA, complete cds /cds=(99,1187) /gb=AF002281 /gi=3138921 /ug=Rn.13361 /len=1586	
AF003825	393	AAD09310	394	U93703	O00451	395		396	91	GDNF receptor-beta	AF003825 Rattus norvegicus GDNF receptor-beta mRNA, partial cds	

DNA-binding protein inhibitor ID-3.

Core promoter element-binding protein (Kruppel-like factor 6)(Transcription factor Zf6).



Table 2.

AF003835	397	O35760	398	NIM_018470	398	NP_004499	400	90.83	Isopentenyl-diphosphate delta-isomerase	AF003835 Rattus norvegicus isopentenyl diphosphate-dimethylallyl diphosphate isomerase mRNA, complete cds /cds=(385,1068) /gb=AF003835 /gi=2253700 /ug=Rn.10780 /len=1182	Peroxisomal.	Isopentenyl-diphosphate delta-isomerase 1 (EC 5.3.3.2) (IPP isomerase1) (isopentenyl pyrophosphate isomerase 1) (IPPI1).
AF004017	401	AAC40034	402	AF053753	403	AAG47773	404	99.97	Solute carrier family 4, sodium bicarbonate cotransporter, member 4	AF004017 Rattus norvegicus electrogenic Na+ bicarbonate cotransporter (NBC) mRNA, complete cds /cds=(23,3130) /gb=AF004017 /gi=2897074 /ug=Rn.11114 /len=3449		
AF004017	405	AAC40034	408	AF053753	407	AAG47773	408	99.97	Solute carrier family 4, sodium bicarbonate cotransporter, member 4	AF004017 Rattus norvegicus electrogenic Na+ bicarbonate cotransporter (NBC) mRNA, complete cds /cds=(23,3130) /gb=AF004017 /gi=2897074 /ug=Rn.11114 /len=3449		
AF004218	409	AAD01198	410	U75283	411	NP_005857	412	89.59	Rattus norvegicus brain sigma receptor	AF004218 Rattus norvegicus brain sigma receptor mRNA, complete cds		
AF004811	413	P31977	414	M69066	415	P26038	416	91.07	Moesin	AF004811 Rattus norvegicus moesin mRNA, complete cds /cds=(88,1831) /gb=AF004811 /gi=2218138 /ug=Rn.10773 /len=2089		
AF006664	417	O35767	418	U34862	419	P52952	420	87	Rattus norvegicus tinman homolog (NKK-2.5) mRNA, complete cds	AF006664 Rattus norvegicus tinman homolog (NKK-2.5) mRNA, complete cds /cds=(93,1049) /gb=AF006664 /gi=2246649 /ug=Rn.6178 /len=1342	Nuclear .	Homeobox protein NKK-2.5 (Cardiac-specific homeobox) (Homeobox protein CSX).

Table 2.

	421	O35767	422	U34962	423	P52952	424	87	Rattus norvegicus thnman homolog (rNKx-2.5) mRNA, complete cds	Nuclear	Homeobox protein NKX-2.5 (Cardiac-specific homeobox protein CSX).
AF006664	421	O35767	422	U34962	423	P52952	424	87	AF006664 Rattus norvegicus thnman homolog (rNKx-2.5) mRNA, complete cds /cds=(93,1049) /gb=AF006664 /gi=2246849 /ug=Rn.6179 /len=1342		
AF007554	425	g2263444		X52228	426	Q16615	427	87.86	AF007554 Rattus norvegicus mucin 1 (Muc1) mRNA, partial cds /cds=(0,224) /gb=AF007554 /gi=2253443 /ug=Rn.10779 /len=447		
AF007583	428	O35167	429	NM_080539	430	Q9NP24	431	90.29	AF007583 Rattus norvegicus acetylcholinesterase-associated collagen (COLQ) mRNA, complete cds /cds=(45,1421) /gb=AF007583 /gi=2564193 /ug=Rn.10841 /len=2731		Acetylcholinesterase collagen tail peptide precursor (AChE Qsubunit) (Acetylcholinesterase-associated collagen).
AF007758	432	P37377	433	L36674	434	P37840	435	94.49	AF007758 Rattus norvegicus synuclein 1 mRNA, complete cds /cds=(27,449) /gb=AF007758 /gi=2218263 /ug=Rn.1827 /len=1006		Alpha-synuclein.
AF007758	436	P37377	437	L36674	438	P37840	439	94.49	AF007758 Rattus norvegicus synuclein 1 mRNA, complete cds /cds=(27,449) /gb=AF007758 /gi=2218253 /ug=Rn.1827 /len=1006		Alpha-synuclein.
AF007836	440	AAB66703	441	AB002338	442	BAA20798	443	95.92	AF007836 Rattus norvegicus rab3 effector (RIM) mRNA, alternatively spliced, complete cds /cds=(414,5075) /gb=AF007836 /gi=2317777 /ug=Rn.10799 /len=5655		
AF007890	444	AAC23442	445	NM_000365	446	P00938	447	49	AF007890 Rattus norvegicus resection-induced TPI (rs11) mRNA, complete cds		

Table 2.

AF008439	448	O54902	449	AB004857	450	P49281	451	89.74	natural resistance-associated macrophage protein 2	AF008439 Rattus norvegicus natural resistance-associated macrophage protein 2 (Nramp2) mRNA, complete cds /cds=(104,1789) /gb=AF008439 /gi=2327086 /ug=Rn.11418 /len=4331	Integral membrane protein .	Natural resistance-associated macrophage protein 2 (Nramp 2) (Metalion transporter DCT1).
AF008439	452	O54902	453	AB004857	454	P49281	455	89.74	natural resistance-associated macrophage protein 2	AF008439 Rattus norvegicus natural resistance-associated macrophage protein 2 (Nramp2) mRNA, complete cds /cds=(104,1789) /gb=AF008439 /gi=2327086 /ug=Rn.11418 /len=4331	Integral membrane protein .	Natural resistance-associated macrophage protein 2 (Nramp 2) (Metalion transporter DCT1).
AF008554	456	O35777	457	AK027632	458	AAB18374	459	91.29	Rattus norvegicus Implantation-associated protein (IAG2) mRNA, partial cds	AF008554 Rattus norvegicus Implantation-associated protein (IAG2) mRNA, partial cds /cds=(0.926) /gb=AF008554 /gi=2258450 /ug=Rn.10782 /len=1087	Integral membrane protein .	Implantation-associated protein.
AF008554	460	O35777	461	AK027632	462	AAB18374	463	91.29	Rattus norvegicus Implantation-associated protein (IAG2) mRNA, partial cds	AF008554 Rattus norvegicus Implantation-associated protein (IAG2) mRNA, partial cds /cds=(0.926) /gb=AF008554 /gi=2258450 /ug=Rn.10782 /len=1087	Integral membrane protein .	Implantation-associated protein.

Table 2.

AF009329	464	O35779	465	NM_030762	466	Q8C0J9	467	67	enhancer-of-split and hairy-related protein 1	AF009328 Rattus norvegicus enhancer-of-split and hairy-related protein 1 (SHARP-1) mRNA, complete cds /cds=(237,998) /gb=AF009328 /gi=2287586 /ug=Rn.10784 /len=3101	Nuclear	Class B basic helix-loop-helix protein 3 (bHLHB3) (Enhancer-of-split and hairy-related protein 1) (SHARP-1).
AF009330	468	O35780	469	NM_003670	470	O14503	471	80	Rattus norvegicus enhancer-of-split and hairy-related protein 2 (SHARP-2) mRNA	AF009330 Rattus norvegicus enhancer-of-split and hairy-related protein 2 (SHARP-2) mRNA, complete cds /cds=(319,1554) /gb=AF009330 /gi=2287588 /ug=Rn.10785 /len=2388	Nuclear	Class B basic helix-loop-helix protein 2 (bHLHB2) (Enhancer-of-split and hairy-related protein 2) (SHARP-2).
AF009803	472	O35179	473	NM_003026	474	Q99982	475	97	SH3p4 mRNA, partial cds	AF009803 Rattus norvegicus SH3p4 mRNA, partial cds /cds=(0,746) /gb=AF009803 /gi=2293467 /ug=Rn.10787 /len=1103		SH3-containing GRB2-like protein 2 (SH3 domain protein 2A) (Endophilin1) (SH3p4) (Fragment).
AF013144	476	O54838	477	NM_004419	478	Q16690	479	87.8	Rattus norvegicus MAP-kinase phosphatase (cpg21) mRNA, complete cds	AF013144 Rattus norvegicus MAP-kinase phosphatase (cpg21) mRNA, complete cds /cds=(174,1328) /gb=AF013144 /gi=2748069 /ug=Rn.10877 /len=2436	Nuclear	Dual specificity protein phosphatase 5 (EC 3.1.3.48) (EC 3.1.3.16) (MAP-kinase phosphatase CPG21).

Table 2.

AF013144	480	O54838	481	NM_004419	482	Q16690	483	87.8	Rattus norvegicus MAP-kinase phosphatase (cpg21) mRNA, complete cds	AF013144 Rattus norvegicus MAP-kinase phosphatase (cpg21) mRNA, complete cds /cds=(174,1328) /gb=AF013144 /gi=2746069 /ug=Rn.10877 /len=2436	Nuclear .	Dual specificity protein phosphatase 5 (EC 3.1.3.48) (EC 3.1.3.16)(MAP-kinase phosphatase CPG21).
AF014009	484	O35244	485	D14862	486	P30041	487	88.11	acidic calcium-independent phospholipase A2 (aiPLA2)	AF014009 Rattus norvegicus acidic calcium-independent phospholipase A2 (aiPLA2) mRNA, complete cds /cds=(20,694) /gb=AF014009 /gi=2317734 /ug=Rn.42 /len=656	"CYTOPLASMIC, LYSOSOMAL AND ALSO FOUND IN LUNG SECRETORY ORGANELLES."	Antioxidant protein 2 (1-Cys peroxiredoxin) (1-Cys PRX) (Addiccalcium-independent phospholipase A2) (EC 3.1.1.-) (aiPLA2) (Non-selenium glutathione peroxidase) (EC 1.11.1.7) (NSGPx) (Thiol-specific
AF014503	488	O54842	489	NM_012385	490	O60356	491	63	p8 mRNA	AF014503 Rattus norvegicus p8 mRNA, complete cds /cds=(54,286) /gb=AF014503 /gi=2735928 /ug=Rn.11182 /len=592	Nuclear .	Protein p8 (Candidate of metastasis 1).



Table 2.

AF016047	504	O35263	505	D63391	506	Q15102	507	90.12	platelet-activating factor acetylhydrolase alpha 1 subunit	AF016047 Rattus norvegicus platelet-activating factor acetylhydrolase alpha 1 subunit (PAF-AH alpha 1) gene, complete cds /cds=(0.698) /gb=AF016047 /g=2501856 /ug=Rn.17971 /len=698	Cytoplasmic.	Platelet-activating factor acetylhydrolase IB gamma subunit(EC 3.1.1.47) (PAF 29 kDa subunit) (PAF-AH 29 kDasubunit) (PAF-AH gamma subunit) (Platelet-activating f
AF016252	508	O35274	509	BC016162	510	NP_115984	511	98	Spinophilin	AF016252 Rattus norvegicus Spinophilin mRNA, complete cds /cds=(513,2966) /gb=AF016252 /g=2462850 /ug=Rn.6764 /len=4505	ENRICHED AT SYNAPSE AND CADHERIN-BASED CELL-CELL ADHESION SITES.	Neurabin-II (Neural tissue-specific F-actin binding protein II)(Protein phosphatase 1 regulatory subunit 9B) (Spinophilin) (p130)(PP1bp134).
AF016387	512	AAD01591	513	NM_006917	514	P48443	515	97	retinoid X receptor gamma (RXRgamma)	AF016387 Rattus norvegicus retinoid X receptor gamma (RXRgamma) mRNA, partial cds		
AF016387	516	AAD01591	517	NM_006917	518	P48443	519	97	retinoid X receptor gamma (RXRgamma)	AF016387 Rattus norvegicus retinoid X receptor gamma (RXRgamma) mRNA, partial cds		

AF017437	520	AAB702	521	NM_001777	522	Q08722	523	62	Integrin-associated protein	AF017437 Rattus norvegicus Integrin-associated protein form 4 (IAP) mRNA, complete cds /cds=(10,966) /gb=AF017437 /gi=2394317 /ug=Rn.10723 /len=1183		
AF017437	524	AAB702	525	NM_001777	526	Q08722	527	62	Integrin-associated protein	AF017437 Rattus norvegicus Integrin-associated protein form 4 (IAP) mRNA, complete cds /cds=(10,966) /gb=AF017437 /gi=2394317 /ug=Rn.10723 /len=1183		
AF018261	528	AAC33	529	NM_013333	530	XP_034403		89.54	EH domain binding protein Epsin	AF018261 Rattus norvegicus EH domain binding protein Epsin mRNA, complete cds		
AF019043	531	Q08877	532	AF000430	533	JC5695	534	100	Rattus norvegicus dynamin-like protein DLP1 isoform DLP1-37 mRNA, complete cds	AF019043 Rattus norvegicus dynamin-like protein (DLP1) mRNA, complete cds /cds=(737,3004) /gb=AF019043 /gi=2425051 /ug=Rn.10830 /len=3945		
AF019628	535	Q83563	536	AK056519	537	XP_016813		86.54	Sulfonylurea receptor 2B mRNA	AF019628 Rattus norvegicus sulfonylurea receptor 2B mRNA, complete cds	Integral membrane protein .	Sulfonylurea receptor 2.
AF020210	538	AAB712	539	XM_050175		XP_050175		83	DLP1 splice variant 4	AF020210 Rattus norvegicus DLP1 splice variant 4 (DLP1) mRNA, partial cds		
AF020210	540	AAB712	541	XM_050175		XP_050175		83	DLP1 splice variant 4	AF020210 Rattus norvegicus DLP1 splice variant 4 (DLP1) mRNA, partial cds		
AF020212	542	AAB712	543	NM_012062	544	NP_036192	545	72	DLP1 splice variant 2	AF020212 Rattus norvegicus DLP1 splice variant 2 (DLP1) mRNA, partial cds		
AF020618	546	AAC24	547	XM_008097	548	XP_009097	549	34	Rattus norvegicus progression elevated gene 3 protein mRNA, complete cds	AF020618 Rattus norvegicus progression elevated gene 3 protein mRNA, complete cds		



Table 2.

AF020618	550	AAC24980	551	XNM_009097	552	XP_009097	553	34	Rattus norvegicus progression elevated gene 3 protein mRNA, complete cds
AF020712	554	AAD11858	555	NM_004137	556	Q18558	557	82	AF020712 Rattus norvegicus Maxi potassium channel beta subunit mRNA, complete cds /cds=(313,888) /gb=AF020712 /gl=2444423 /ug=Rn.10820 /len=1287
AF021923	558	O54701	559	AF177987	560	Q8UJ40	561	90.38	AF021923 Rattus norvegicus potassium-dependent sodium-calcium exchanger (NCKX2) mRNA, complete cds /cds=(148,2160) /gb=AF021923 /gl=2862460 /ug=Rn.10859 /len=8942
AF022742	562	AAB80923	563	X05495	564	P07204	565	68	AF022742cds Rattus norvegicus thrombomodulin precursor gene, promoter region and partial cds
AF022819	566	AAD09336	567	U33632	568	O00180	569	90.19	AF022819 Rattus norvegicus putative potassium channel TWIK mRNA, complete cds

Sodium/potassium/calcium exchanger 2 precursor (Na<sup>+</sup>)/K<sup>+</sup>/Ca<sup>2+</sup>-exchange protein 2 (Retinal cone Na-Ca+K exchanger).

Integral membrane protein.

Table 2.

AF023657	570	AAB86925	571	NM_024641	572	NP_078917	573	88	endo-alpha-D-mannosidase (Enman)	AF023657 Rattus norvegicus endo-alpha-D-mannosidase (Enman) mRNA, complete cds /cds=(88,1443) /gb=AF023657 /gi=2842186 /ug=Rn.10855 /len=2552
AF025308	574	AAB82285	575	No human homolog found.		No Human Protein Found.			MHC class Ib antigen (RT1.CI)	AF025308 Rattus norvegicus MHC class Ib antigen (RT1.CI) gene, complete cds /cds=(0,1133) /gb=AF025308 /gi=2570820 /ug=Rn.11244 /len=1134
AF026504	576	AAB81526	577	AC004974	578	AAC83179	579	81	SPA-1 like protein p1284	AF026504 Rattus norvegicus SPA-1 like protein p1284 mRNA, complete cds /cds=(733,8201) /gb=AF026504 /gi=2555182 /ug=Rn.10835 /len=6400
AF026505	580	AAB81527	581	AF396457	582	NP_066547	583	98.19	SH3-containing protein p4015	AF026505 Rattus norvegicus SH3-containing protein p4015 mRNA, complete cds /cds=(680,4270) /gb=AF026505 /gi=2555184 /ug=Rn.10836 /len=6331
AF026505	584	AAB81527	585	AF396457	586	NP_066547	587	98.19	Rattus norvegicus SH3-containing protein p4015	AF026505 Rattus norvegicus SH3-containing protein p4015 mRNA, complete cds /cds=(680,4270) /gb=AF026505 /gi=2555184 /ug=Rn.10836 /len=6331
AF026529	588	O35414	589	AJ303455	590	Q9H189	591	95.19	Stathmin-like protein RB3	AF026529 Rattus norvegicus stathmin-like protein splice variant RB3 mRNA, complete cds /cds=(120,650) /gb=AF026529 /gi=2585982 /ug=Rn.5888 /len=1305
AF026554	592	O70247	593	AL096737	594	Q9Y289	595	90.48	Rattus norvegicus sodium-dependent multi-vitamin transporter (SMVT) mRNA, complete cds	AF026554 Rattus norvegicus sodium-dependent multi-vitamin transporter (SMVT) mRNA, complete cds /cds=(412,2316) /gb=AF026554 /gi=3015616 /ug=Rn.11105 /len=3075
									Integral membrane protein.	Stathmin 4 (Stathmin-like protein B3) (RB3).  Sodium-dependent multi-vitamin transporter (Na(+)-dependent multi-vitamin transporter).

Table 2.

AF0265 54	596	OT0247	597	AL096737	598	Q9Y289	599	90.48	Rattus norvegicus sodium- dependent multi-vitamin transporter (SMVT) mRNA, complete cds	AF026554 Rattus norvegicus sodium- dependent multi-vitamin transporter (SMVT) mRNA, complete cds /cds=(412,2316) /gb=AF026554 /gi=3015816 /ug=Rn.11105 /len=3075	Integral membrane protein.	Sodium- dependent multi-vitamin transporter (Na(+)- dependent/multi- vitamin transporter).
AF0275 71	600	Q8QW07	601	L41349	602	Q15147	603	91.97	Phospholipase C, beta4	AF027571 Rattus norvegicus phospholipase C-beta 4 isoform (PLC-b4) mRNA, partial cds		"1- phosphatidylino- sitol-4,5- bisphosphate phosphodiester- ase beta 4 (EC 3.1.4.11) (PLC- beta-4) (Phospholipase C-beta-4)."
AF0292 40	604	g31500 54	M20022	M20022	605	P29401	606	62	Rattus norvegicus MHC class Ib RT1.S3 (RT1.S3) mRNA, partial cds	AF029240 Rattus norvegicus MHC class Ib RT1.S3 (RT1.S3) gene, complete cds /cds=(0,1091) /gb=AF029240 /gi=3150053 /ug=Rn.14874 /len=2653		
AF0292 40	607	g31500 54	M20022	M20022	608	P29401	609	62	Rattus norvegicus MHC class Ib RT1.S3 (RT1.S3) mRNA, partial cds	AF029240 Rattus norvegicus MHC class Ib RT1.S3 (RT1.S3) gene, complete cds /cds=(0,1091) /gb=AF029240 /gi=3150053 /ug=Rn.14874 /len=2653		
AF0300 50	610	AAD01 890	611	L23320	612	AAA161 21	613	69	Replication factor C mRNA, partial cds	AF030050 Rattus norvegicus replication factor C mRNA, partial cds		

Table 2.

AF030087	614	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Rat activity and neurotransmitter-induced early gene 2 (anla-2)	AF030087UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 2 (anla-2) mRNA, 3 UTR
AF030087	615	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Rat activity and neurotransmitter-induced early gene 2 (anla-2)	AF030087UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 2 (anla-2) mRNA, 3 UTR
AF030087	616	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Rat activity and neurotransmitter-induced early gene 2 (anla-2)	AF030087UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 2 (anla-2) mRNA, 3 UTR
AF030087	617	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Rat activity and neurotransmitter-induced early gene 2 (anla-2)	AF030087UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 2 (anla-2) mRNA, 3 UTR
AF030089	618	AAD43 824	619	620	95	AF030089UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 4 (anla-4) mRNA, 3 UTR
AF030091	622	AAD45 558	623	624	625	AF030091UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 6 (anla-6) mRNA, 3 UTR
AF030091	626	AAD45 558	627	628	629	AF030091UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 6 (anla-6) mRNA, 3 UTR

Table 2.

AF030091	630	AAD45558	631	AY034790	632	NP_084703	633	93.42	Rattus norvegicus cyclin ania-6a mRNA, complete cds	AF030091UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 6 (ania-6) mRNA, 3 UTR
AF030091	634	AAD45558	635	AY034790	636	NP_084703	637	93.42	Rattus norvegicus cyclin ania-6a mRNA, complete cds	AF030091UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 6 (ania-6) mRNA, 3 UTR
AF030058	638	O55145	639	U84487	640	P78423	641	86.01	Rattus norvegicus chemokine CX3C mRNA, complete cds	AF030358 Rattus norvegicus chemokine CX3C mRNA, complete cds
AF030058	642	O55145	643	U84487	644	P78423	645	86.01	Rattus norvegicus chemokine CX3C mRNA, complete cds	AF030358 Rattus norvegicus chemokine CX3C mRNA, complete cds
AF031430	646	O70257	647	BC011975	648	O15400	649	87.11	Syntaxin 7	AF031430 Rattus norvegicus syntaxin 7 mRNA, complete cds

TYPE I  
MEMBRANE  
PROTEIN.  
ALSO  
EXISTS AS  
A  
SECRETED  
PROTEIN .

Fractalkine precursor (CX3CL1) (Neurotactin) (CX3C membrane-anchoredchemokine) (Small Inducible cytokine D1).

TYPE I  
MEMBRANE  
PROTEIN.  
ALSO  
EXISTS AS  
A  
SECRETED  
PROTEIN .

Fractalkine precursor (CX3CL1) (Neurotactin) (CX3C membrane-anchoredchemokine) (Small Inducible cytokine D1).

TYPE IV  
MEMBRANE  
PROTEIN.  
EARLY  
ENDOSOME  
MEMBRANE  
S.

Syntaxin 7.

Table 2.

AF0542 46	650	AAC64 920	651	NM_0200 61	652	NP_084 445	653	89	Rattus norvegicus green- sensitive opsin mRNA, partial cds	AF031528	AF031528 Rattus norvegicus green-sensitive opsin mRNA, partial cds			
AF0316 42	654	AAD01 938	655	NM_0071 63	656	Q15849	657	84	Urea transporter (UT4) mRNA		AF031642 Rattus norvegicus kidney urea transporter (UT4) mRNA, complete cds			
AF0316 57	658	AAC53 578	659	NM_0034 25	660	Q02386	661	86	Zinc-finger protein 84 (Zfp84) gene, partial cds		AF031657mRNA Rattus norvegicus zinc- finger protein 84 (Zfp84) gene, partial cds			
AF0321 20	662	Q8Z254	663	AF028824	664	O14908	665	87.98	Regulator of G protein signaling 19	AF089817	AF032120 Rattus norvegicus GLUT1 transporter C-terminal binding protein mRNA, complete cds	CYTOPLAS MIC AND MEMBRANE- ASSOCIATE D.	GAIP C- terminus Interacting protein GIPC (RGS-GAIP Interactingprotei n) (GLUT1 C- terminal binding protein) (GLUT1CBP).	
AF0321 20	666	Q8Z254	667	AF028824	668	O14908	669	87.98	Regulator of G protein signaling 19		AF032120 Rattus norvegicus GLUT1 transporter C-terminal binding protein mRNA, complete cds	CYTOPLAS MIC AND MEMBRANE- ASSOCIATE D.	GAIP C- terminus Interacting protein GIPC (RGS-GAIP Interactingprotei n) (GLUT1 C- terminal binding protein) (GLUT1CBP).	

Table 2.

AF032120	670	Q9Z254	671	AF028824	672	O14908	673	87.98	Regulator of G-protein signaling 19	AF032120 Rattus norvegicus GLUT1 transporter C-terminal binding protein mRNA, complete cds	CYTOPLASMIC AND MEMBRANE ASSOCIATED	GAIP C-terminus interacting protein GIPC (RGS-GAIP interacting protein) (GLUT1 C-terminal binding protein) (GLUT1CBP).
AF0326	674	AAC01578	675	AJ420556	676	CAB54145	677	87.98	Rattus norvegicus rsec5 mRNA, complete cds	AF032668 Rattus norvegicus rsec5 mRNA, complete cds /cds=(198,2973) /gb=AF032668 /gi=2827157 /ug=Rn.2869 /len=4285		
AF0326	678	AAC01578	679	AJ420556	680	CAB54145	681	87.98	Rattus norvegicus rsec5 mRNA, complete cds	AF032668 Rattus norvegicus rsec5 mRNA, complete cds /cds=(198,2973) /gb=AF032668 /gi=2827157 /ug=Rn.2869 /len=4285		
AF0326	682	AAC01578	683	AJ420556	684	CAB54145	685	87.98	Rattus norvegicus rsec5 mRNA, complete cds	AF032668 Rattus norvegicus rsec5 mRNA, complete cds /cds=(198,2973) /gb=AF032668 /gi=2827157 /ug=Rn.2869 /len=4285		
AF0326	686	AAC01578	687	AJ420556	688	CAB54145	689	87.98	Rattus norvegicus rsec5 mRNA, complete cds	AF032668 Rattus norvegicus rsec5 mRNA, complete cds /cds=(198,2973) /gb=AF032668 /gi=2827157 /ug=Rn.2869 /len=4285		
AF0326	690	AAC01580	691	AK002113	692	CAB70736	693	90.6	rsec15	AF032668 Rattus norvegicus rsec15 mRNA, complete cds /cds=(340,2808) /gb=AF032668 /gi=2827161 /ug=Rn.1188 /len=3059		





Table 2.

AF033109	702	Q8Z2Q7	703	AF036715	704	P36988	705	88	syntaxin 8	AF033109 Rattus norvegicus syntaxin 8 mRNA, complete cds	"INTEGRAL MEMBRANE PROTEIN. PREFERENT IALLY ASSOCIATED WITH THE EARLY ENDOSOME . TO LESSER EXTENDS, ALSO PRESENT IN LATE ENDOSOME , THE PLASMA MEMBRANE AND COATED PITTS."	Syntaxin 8.
AF034218	706	AAD01980	707	BC000692	708	NP_149348	709	82.99	Hyaluronidase	AF034218 Rattus norvegicus hyaluronidase (Hyal2) mRNA, complete cds		
AF034218	710	AAD01980	711	BC000692	712	NP_149348	713	82.99	Hyaluronidase	AF034218 Rattus norvegicus hyaluronidase (Hyal2) mRNA, complete cds		
AF034582	714	AAD01980	715	AB020712	716	BAA74928	717	79	Vesicle associated protein (VAP1)	AF034582 Rattus norvegicus vesicle associated protein (VAP1) mRNA, complete cds		
AF034582	718	AAD01990	719	AB020712	720	BAA74928	721	79	Vesicle associated protein (VAP1)	AF034582 Rattus norvegicus vesicle associated protein (VAP1) mRNA, complete cds		

Table 2.

AF034899	722	JC5838	723	L35475	724	Q15082	725	44	Rattus norvegicus olfactory receptor-like protein (SCR D-8) gene, complete cds	AF034899 Rattus norvegicus olfactory receptor-like protein (SCR D-8) gene, complete cds /cds=(Q.965) /gb=AF034899 /gi=3153224 /ug=Rn.14522 /len=1086	
AF034899	726	JC5838	727	L35475	728	Q15082	729	44	Rattus norvegicus olfactory receptor-like protein (SCR D-8) gene, complete cds	AF034899 Rattus norvegicus olfactory receptor-like protein (SCR D-8) gene, complete cds /cds=(Q.965) /gb=AF034899 /gi=3153224 /ug=Rn.14522 /len=1086	
AF034900	730	AAC17224	731	NIM_013941	732	NP_039229	733	57	Olfactory receptor-like protein (SCR D-7)	AF034900mRNA Rattus norvegicus olfactory receptor-like protein (SCR D-7) gene, complete cds	
AF036255	734	O70277	735	AF220021	736	O75382	737	82.2	RING finger protein	AF036255 Rattus norvegicus RING finger protein mRNA, complete cds /cds=(220,2454) /gb=AF036255 /gi=3170008 /ug=Rn.14524 /len=2880	Tripartite motif protein 3 (RING finger protein 22).
AF036335	738	AAD05382	739	XM_051944		P23246	740	98	Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds /cds=(0,508) /gb=AF036335 /gi=2874208 /ug=Rn.1826 /len=1020		
AF036335	741	AAD05382	742	XM_051944		P23246	743	98	Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds /cds=(0,508) /gb=AF036335 /gi=2874208 /ug=Rn.1826 /len=1020		

Table 2.

AF0363 35	744	AAD05 362	745	XM_05194 4	P23248	746	96	Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds	AF036335 Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds /cds=(0,508) /gb=AF036335 /g=2674208 /ug=Rn.1926 /len=1020
AF0363 35	747	AAD05 362	748	XM_05194 4	P23248	749	96	Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds	AF036335 Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds /cds=(0,508) /gb=AF036335 /g=2674208 /ug=Rn.1926 /len=1020
AF0363 35	750	AAD05 362	751	XM_05194 4	P23248	752	96	Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds	AF036335 Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds /cds=(0,508) /gb=AF036335 /g=2674208 /ug=Rn.1926 /len=1020
AF0363 35	753	AAD05 362	754	XM_05194 4	P23248	755	96	Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds	AF036335 Rattus norvegicus NonO/p54nrb homolog mRNA, partial cds /cds=(0,508) /gb=AF036335 /g=2674208 /ug=Rn.1926 /len=1020
AF0367 61	756	AAB888 65	757	AF097514	O00767	759	92	stearoyl-CoA desaturase 2	AF036761 Rattus norvegicus stearoyl-CoA desaturase 2 mRNA, partial cds
AF0367 61	760	AAB888 65	761	AF097514	O00767	763	92	stearoyl-CoA desaturase 2	AF036761 Rattus norvegicus stearoyl-CoA desaturase 2 mRNA, partial cds
AF0367 61	764	BAA924 36	765	AF097514	O00767	767	83	Scd2 stearoyl- CoA desaturase 2	AF036761 Rattus norvegicus stearoyl-CoA desaturase 2 mRNA, partial cds AB032243
AF0367 61	768	AAB888 65	769	AF097514	O00767	771	92	stearoyl-CoA desaturase 2	AF036761 Rattus norvegicus stearoyl-CoA desaturase 2 mRNA, partial cds

Table 2.

AF0367 61	772	AAB868 65	773	AF097514	774	O00767	775	92	stearoyl-CoA desaturase 2		AF036761 Rattus norvegicus stearoyl-CoA desaturase 2 mRNA, partial cds			
AF0367 61	776	BAA924 36	777	AF097514	778	O00767	779	83	Scd2 stearoyl- CoA desaturase 2	AB032243	AF036761 Rattus norvegicus stearoyl-CoA desaturase 2 mRNA, partial cds			
AF0370 72	780	P14141	781	BM71311 2	782	AAH048 97	783	92.92	Carbonic anhydrase III		AF037072 Rattus norvegicus carbonic anhydrase III (CA3) mRNA, complete cds /cds=(33,815) /gb=AF037072 /gi=2708635 /ug=Rn.22519 /len=1053	Cytoplasmic.	Carbonic anhydrase III (EC 4.2.1.1) (Carbonate dehydratase III) (CA-III).	
AF0372 72	784	AAC40 055	785	AF168631	786	XP_007 832	787	84.08	WAP four- disulfide core domain protein (ps20)		AF037272 Rattus norvegicus WAP four- disulfide core domain protein (ps20) mRNA, complete cds /cds=(61,889) /gb=AF037272 /gi=2935295 /ug=Rn.3193 /len=1053			
AF0390 85	788	O54980	789	AJ002308	790	O43760	791	87	Synaptogyrin 2		AF039085 Rattus norvegicus cellugyrin mRNA, complete cds /cds=(153,657) /gb=AF039085 /gi=2773063 /ug=Rn.8682 /len=1108	Integral membrane protein.	Synaptogyrin 2 (Cellugyrin).	
AF0395 83	792	AAC77 438	793	NM_0005 74	794	P08174	795	45	Decay- accelerating factor		AF039583 Rattus norvegicus decay accelerating factor GPI-form precursor (DAF) mRNA, complete cds			
AF0395 83	796	AAC77 438	797	NM_0005 74	798	P08174	799	45	Decay- accelerating factor		AF039583 Rattus norvegicus decay accelerating factor GPI-form precursor (DAF) mRNA, complete cds			
AF0395 84	800	AAC77 439	801	XNM_05206 0		XP_052 060		47	Decay accelerating factor soluble- form precursor (DAF) mRNA, complete cds		AF039584 Rattus norvegicus decay accelerating factor soluble-form precursor (DAF) mRNA, complete cds			

Table 2.

AF040261	802	P53809	803	AK058120	804	Q9UKL6	805	87.8	Phosphatidylcholine transfer protein (Pctp)
61									
AF041108	808	AAB97076	807	AL050050	808	BAA86586	809	92.12	Tulip 1
08									
AF041107	810	P49816	811	AL050050	812	T08722		92.12	Tulip 1
07									
AF041107	813	P49816	814	AL050050	815	T08722		92.12	Tulip 1
07									
AF041107	816	P49816	817	AL050050	818	T08722		92.12	Tulip 1
07									
AF041107	819	P49816	820	AL050050	821	T08722		92.12	Tulip 1
07									
AF041373	822	AAB97078	823	NM_007166	824	NP_009097	825	87	Clathrin assembly protein short form (CALM)
73									
AF045464	826	P38818	827	NM_012067	828	O95154	829	78	afatoxin B1 aldehyde reductase; AFAR
84									
AF045584	830	Q9Z2L9	831	AB033006	832	Q8ULP0	833	90.17	Development-related protein
64									

AF040261 Rattus norvegicus phosphatidylcholine transfer protein (Pctp) mRNA, partial cds	Cytoplasmic.	Phosphatidylcholine transfer protein (PC-TP).
AF041108 Rattus norvegicus tulip 1 mRNA, complete cds /cds=(1052,3285) /gb=AF041108 /gi=2792493 /ug=Rn.10887 /len=4258		
AF041107 Rattus norvegicus tulip 2 mRNA, complete cds /cds=(286,2866) /gb=AF041107 /gi=2792495 /ug=Rn.10887 /len=3344		
AF041107 Rattus norvegicus tulip 2 mRNA, complete cds /cds=(286,2866) /gb=AF041107 /gi=2792495 /ug=Rn.10887 /len=3344		
AF041107 Rattus norvegicus tulip 2 mRNA, complete cds /cds=(286,2866) /gb=AF041107 /gi=2792495 /ug=Rn.10887 /len=3344		
AF041107 Rattus norvegicus tulip 2 mRNA, complete cds /cds=(286,2866) /gb=AF041107 /gi=2792495 /ug=Rn.10887 /len=3344		
AF041373 Rattus norvegicus clathrin assembly protein short form (CALM) mRNA, complete cds /cds=(25,1818) /gb=AF041373 /gi=2792499 /ug=Rn.10888 /len=1921		
AF045464 Rattus norvegicus afatoxin B1 aldehyde reductase (AFAR) mRNA, complete cds	Cytoplasmic.	Aflatoxin B1 aldehyde reductase (EC 1.-.-.-) (AFB1-AR).
AF045584 Rattus norvegicus development-related protein mRNA, complete cds		NDRG4 protein (Brain development-related molecule 1).

Table 2.

AF045564	834	Q9Z2L9	835	AB033006	836	Q8ULP0	837	90.17	Development-related protein	AF045584 Rattus norvegicus development-related protein mRNA, complete cds	NDRG4 protein (Brain development-related molecule 1).
AF047707	838	AAD02464	839	D50840	840	Q16739	841	90.11	UDP-glucose:ceramide glycosyltransferase	AF047707 Rattus norvegicus UDP-glucose:ceramide glycosyltransferase mRNA, complete cds	
AF047707	842	AAD02464	843	D50840	844	Q16739	845	90.11	UDP-glucose:ceramide glycosyltransferase	AF047707 Rattus norvegicus UDP-glucose:ceramide glycosyltransferase mRNA, complete cds	
AF048887	846	AAC24515	847	AF069054	848	Q8UBX8	849	89	UDP-Gal:glucosylceramide beta-1,4-galactosyltransferase	AF048887 Rattus norvegicus UDP-Gal:glucosylceramide beta-1,4-galactosyltransferase mRNA, complete cds	
AF048828	850	Q9Z2L0	851	BI493778	852	MMHUP3	853	94.12	Voltage-dependent anion channel 1	AF048828 Rattus norvegicus voltage dependent anion channel (RVDAC1) mRNA, complete cds	OUTER MEMBRANE OF MITOCHONDRIA AND PLASMA MEMBRANE
											Voltage-dependent anion-selective channel protein 1 (VDAC-1) (VDAC1)(Outer mitochondrial membrane protein porin 1).

Table 2.

AF0488 28	854	Q8Z2L0	855	BI493778	856	MMHUP 3	857	94.12	Voltage- dependent anion channel 1	AF048828 Rattus norvegicus voltage dependent anion channel (RVDAC1) mRNA, complete cds	OUTER MEMBRANE OF MITOCHON DRIA AND PLASMA MEMBRANE	Voltage- dependent anion-selective channel protein 1 (VDAC-1) (rVDAC1)(Outer mitochondrial membrane protein porin 1).
AF0488 28	858	Q8Z2L0	859	BI493778	860	MMHUP 3	861	94.12	Voltage- dependent anion channel 1	AF048828 Rattus norvegicus voltage dependent anion channel (RVDAC1) mRNA, complete cds	OUTER MEMBRANE OF MITOCHON DRIA AND PLASMA MEMBRANE	Voltage- dependent anion-selective channel protein 1 (VDAC-1) (rVDAC1)(Outer mitochondrial membrane protein porin 1).
AF0488 28	862	Q8Z2L0	863	BI493778	864	MMHUP 3	865	94.12	Voltage- dependent anion channel 1	AF048828 Rattus norvegicus voltage dependent anion channel (RVDAC1) mRNA, complete cds	OUTER MEMBRANE OF MITOCHON DRIA AND PLASMA MEMBRANE	Voltage- dependent anion-selective channel protein 1 (VDAC-1) (rVDAC1)(Outer mitochondrial membrane protein porin 1).

Table 2.

AF048828	866	Q9Z2L0	867	BI493778	868	MMHUP3	869	94.12	Voltage-dependent anion channel 1	AF048828 Rattus norvegicus voltage dependent anion channel (RVDAC1) mRNA, complete cds	OUTER MEMBRANE OF MITOCHONDRIA AND PLASMA MEMBRANE	Voltage-dependent anion-selective channel protein 1 (VDAC-1)(VDAC1)(Outer mitochondrial membrane protein porin 1).
AF048828	870	Q9Z2L0	871	BI493778	872	MMHUP3	873	94.12	Voltage-dependent anion channel 1	AF048828 Rattus norvegicus voltage dependent anion channel (RVDAC1) mRNA, complete cds	OUTER MEMBRANE OF MITOCHONDRIA AND PLASMA MEMBRANE	Voltage-dependent anion-selective channel protein 1 (VDAC-1)(VDAC1)(Outer mitochondrial membrane protein porin 1).
AF048344	874	AAC69708	875	AJ245539	876	AAF16313	877	87.65	N-acetyl/galactosaminyltransferase T5 mRNA	AF048344 Rattus norvegicus UDP-GalNAc:polypeptide N-acetyl/galactosaminyltransferase T5 mRNA, complete cds		
AF051425	878	O70367	879	AB005999	880	O75829	881	85.25	Chondromodulin-1 (Chm-1)	AF051425 Rattus norvegicus chondromodulin-1 (Chm-1) mRNA, complete cds /cds=(126,1130) /gb=AF051425 /g1=2952535 /ug=Rn.9900 /len=1405	Cytoplasmic and secreted. Accumulated in the interterritorial matrix of cartilage.	Chondromodulin precursor (Chm-1) [Contains: Chondrosurfactant protein (CH-SP)].



Table 2.

AF051561	882	AAC27 557	883	BE933612	884	NP_000 329	885	91.41	Solute carrier family 12, member 2	AF051561 Rattus norvegicus Na-K-Cl cotransporter (Nkcc1) mRNA, complete cds		
AF051561	886	AAC27 557	887	BE933612	888	NP_000 329	889	91.41	Solute carrier family 12, member 2	AF051561 Rattus norvegicus Na-K-Cl cotransporter (Nkcc1) mRNA, complete cds		
AF051895	890	AAC06 290	891	NM_0011 54	892	P08758	893	92	Lipocortin V	AF051895 Rattus norvegicus lipocortin V mRNA, partial cds		
AF052042	894	Q9Z2K 3	895	NM_0140 19	896	NP_115 540	897	89.47	Rattus norvegicus zinc finger protein Y1 (RLZF-Y) mRNA, complete cds	AF052042 Rattus norvegicus zinc finger protein Y1 (RLZF-Y) mRNA, complete cds	Nuclear	Zinc finger protein 94 (Zfp- 94) (Zinc finger protein Y1) (RLZF-Y).
AF054618	898	AAC08 424	899	AK023333	900	AAH087 99	901	90	cortactin isoform C	AF054618 Rattus norvegicus cortactin isoform C mRNA, complete cds /cds=(0,1415) /gb=AF054618 /gi=2996043 /ug=Rn.4094 /len=1416		
AF055292	902	AAC12 759	903	XM_04311 3		XP_043 113		90	Signal transducer and activator of transcription 6 (stat6)	AF055292mRNA Rattus norvegicus signal transducer and activator of transcription 6 (stat6) gene, partial cds		
AF058787	904	O70453	905	D21243	906	P30519	907	93.04	Rattus norvegicus heme oxygenase-3 (HO-3) mRNA, complete cds	AF058787 Rattus norvegicus heme oxygenase-3 (HO-3) mRNA, complete cds /cds=(1061,1933) /gb=AF058787 /gi=3063688 /ug=Rn.14538 /len=2226	Microsomal	Heme oxygenase 3 (EC 1.14.99.3) (HO-3).

Table 2.

AF0580 30	908	AAC40 199	909	AF150882	910	NP_000 326	911	92.31	Sodium channel, voltage-gated, type XI, alpha polypeptide (SNS2)	AF059030 Rattus norvegicus voltage-gated Na channel alpha subunit NaV mRNA, complete cds			
AF0612 42	912	Q8R1B 1	913	AJ005112	914	Q8Y5J6	915	86.34	Fracture callus 1	AF061242 Rattus norvegicus fracture callus 1 (FxC1) mRNA, complete cds	Mitochondrial inner membrane .	Mitochondrial import inner membrane translocase subunit TIM9 B(Fracture callus protein 1) (FxC1).	
AF0612 66	916	Q9QX0 1	917	Z73903	918	P48995	919	89.57	Trp1 beta variant mRNA	AF061266 Rattus norvegicus trp1 beta variant mRNA, complete cds	Integral membrane protein.	Short transient receptor potential channel 1 (TrpC1) (TRP-1 protein)(Trp1).	
AF0614 43	920	Q9Z2H 4	921	XM_00654 9	922	XP_006 549	923	82	G protein- coupled receptor LGR4	AF061443 Rattus norvegicus G protein- coupled receptor LGR4 (LGR4) mRNA, complete cds	Integral membrane protein.	Leucine-rich repeat- containing G protein-coupled receptor 4 precursor.	

Table 2.

AF061726	924	P16269	925	BC003169	926	P20807	927	93.52	Calpain R188	AF061726 Rattus norvegicus muscle type calpain p94 mRNA, complete cds /cds=(66,2357) /gb=AF061726 /gi=3128956 /ug=Rn.9726 /len=2371	Cytoplasmic.	"Calpain 3 large subunit (EC 3.4.22.17) (Calpain L3) (Calpain p94, large [catalytic] subunit) (Calcium-activated neutral proteinase 3)(CANP 3) (Muscle-specific calcium-activated neutral protease 3 large"
AF061947	928	O88480	929	AB002328	930	Q8Y6J0	931	80.11	Caln mRNA	AF061947 Rattus norvegicus caln mRNA, complete cds	Cytoplasmic.	Calcineurin-binding protein Cabin 1 (Calcineurin inhibitor) (CAIN).
AF061947	932	O88480	933	AB002328	934	Q8Y6J0	935	80.11	Caln mRNA	AF061947 Rattus norvegicus caln mRNA, complete cds	Cytoplasmic.	Calcineurin-binding protein Cabin 1 (Calcineurin inhibitor) (CAIN).
AF062594	936	200810 9A	937	A1678881	938	S40510		96.08	Nucleosome assembly protein 1-like 1	AF062594 Rattus norvegicus nucleosome assembly protein mRNA, complete cds		
AF062594	939	200810 9A	940	A1678881	941	S40510		96.08	Nucleosome assembly protein 1-like 1	AF062594 Rattus norvegicus nucleosome assembly protein mRNA, complete cds		

Table 2.

AF062594	942	200810 9A	943	AI678881	944	S40510	96.08	Nucleosome assembly protein 1-like 1	AF062594 Rattus norvegicus nucleosome assembly protein mRNA, complete cds		
AF062594	945	200810 9A	946	AI678881	947	S40510	96.08	Nucleosome assembly protein 1-like 1	AF062594 Rattus norvegicus nucleosome assembly protein mRNA, complete cds		
AF062594	948	200810 9A	949	AI678881	950	S40510	96.08	Nucleosome assembly protein 1-like 1	AF062594 Rattus norvegicus nucleosome assembly protein mRNA, complete cds		
AF062594	951	200810 9A	952	AI678881	953	S40510	96.08	Nucleosome assembly protein 1-like 1	AF062594 Rattus norvegicus nucleosome assembly protein mRNA, complete cds		
AF062740	954	088483	955	AI024308	956	NP_060 914	93.18 957	pyruvate dehydrogenase phosphatase isoenzyme 1	AF062740 Rattus norvegicus pyruvate dehydrogenase phosphatase isoenzyme 1 mRNA, complete cds	Mitochondrial matrix.	"Pyruvate dehydrogenase [Lipoamide]- phosphatase 1, mitochondrialpr ecursor (EC 3.1.3.43) (PDP 1) (Pyruvate dehydrogenase phosphatase, cat alytic subunit 1) (PDPC 1)."

TABLE 2.

AF062740	958	O88483	959	AI024308	960	NP_060914	961	93.18	pyruvate dehydrogenase phosphatase isoenzyme 1	AF062740 Rattus norvegicus pyruvate dehydrogenase phosphatase isoenzyme 1 mRNA, complete cds	Mitochondrial matrix.	[Pyruvate dehydrogenase [Lipoamide]-phosphatase 1, mitochondrial precursor (EC 3.1.3.43) (PDP 1) (Pyruvate dehydrogenase phosphatase, catalytic subunit 1) (PDPC 1)."
AF062741	962	O88484	963	AB037769	964	Q9P2J9	965	84.84	Rattus norvegicus pyruvate dehydrogenase phosphatase isoenzyme 2 mRNA, complete cds	AF062741 Rattus norvegicus pyruvate dehydrogenase phosphatase isoenzyme 2 mRNA, complete cds	Mitochondrial matrix.	[Pyruvate dehydrogenase [Lipoamide]-phosphatase 2, mitochondrial precursor (EC 3.1.3.43) (PDP 2) (Pyruvate dehydrogenase phosphatase, catalytic subunit 2) (PDPC 2)."
AF063102	966	T14324	967	AW238191	968	BAA34506	969	99.28	Alpha-latrotoxin receptor, calcium-independent	AF063102 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 2 (CIRL-2) mRNA, complete cds		
AF063102	970	T14324	971	AW238191	972	BAA34506	973	99.28	Alpha-latrotoxin receptor, calcium-independent	AF063102 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 2 (CIRL-2) mRNA, complete cds		

Table 2.

AF063102	974	T14324	975	AW23819 1	976	BAA345 06	977	99.28	Alpha-latrotoxin receptor, calcium-independent	AF063102 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 2 (CIRL-2) mRNA, complete cds	
AF063102	978	T14324	979	AW23819 1	980	BAA345 06	981	99.28	Alpha-latrotoxin receptor, calcium-independent	AF063102 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 2 (CIRL-2) mRNA, complete cds	
AF063103	982	AAC77 816	983	AF307080	984	XP_034 091	985	92.98	calcium-independent alpha-latrotoxin receptor	AF063103 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 3 (CIRL-3) mRNA, complete cds	
AF063103	986	AAC77 816	987	AF307080	988	AAC778 16	989	92.98	calcium-independent alpha-latrotoxin receptor	AF063103 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 3 (CIRL-3) mRNA, complete cds	
AF063447	990	AAC16 391	991	BC001009	992	AAH010 09	993	93	nuclear RNA helicase	AF063447 Rattus norvegicus nuclear RNA helicase mRNA, complete cds /cds=(99,1382) /gb=AF063447 /gi=3132828 /ug=Rn.14550 /len=1511	
AF064541	994	P48974	995	L37112	996	P47801	997	86.98	Vasopressin V1b receptor variant	AF064541 Rattus norvegicus vasopressin V1b receptor variant mRNA, complete cds /cds=(18,389) /gb=AF064541 /gi=3142891 /ug=Rn.10096 /len=623	Integral membrane protein.
AF064868	998	AAC63 267	999	AL390162	1000	NP_065 887	1001	90.07	Brain-enriched guanylate kinase-associated protein 1	AF064868 Rattus norvegicus brain-enriched guanylate kinase-associated protein 1 mRNA, complete cds	Vasopressin V1b receptor (V1bR) (AVPR V1b) (Vasopressin V3 receptor)(AVPR V3) (Antidiuretic hormone receptor 1b).

Table 2.

AF0653 87	1002	O88496	1003	M81592	1004	P38435	1005	88.42	Gamma-glutamyl carboxylase	AF065387 Rattus norvegicus vitamin K-dependent gamma-glutamyl carboxylase mRNA, complete cds	Vitamin K-dependent gamma-carboxylase (EC 6.4.-.-) (Gamma-glutamylcarboxylase).
AF0653 87	1006	O88496	1007	M81592	1008	P38435	1009	88.42	Gamma-glutamyl carboxylase	AF065387 Rattus norvegicus vitamin K-dependent gamma-glutamyl carboxylase mRNA, complete cds	Vitamin K-dependent gamma-carboxylase (EC 6.4.-.-) (Gamma-glutamylcarboxylase).
AF0653 87	1010	O88496	1011	M81592	1012	P38435	1013	88.42	Gamma-glutamyl carboxylase	AF065387 Rattus norvegicus vitamin K-dependent gamma-glutamyl carboxylase mRNA, complete cds	Vitamin K-dependent gamma-carboxylase (EC 6.4.-.-) (Gamma-glutamylcarboxylase).
AF0653 87	1014	O88496	1015	M81592	1016	P38435	1017	88.42	Gamma-glutamyl carboxylase	AF065387 Rattus norvegicus vitamin K-dependent gamma-glutamyl carboxylase mRNA, complete cds	Vitamin K-dependent gamma-carboxylase (EC 6.4.-.-) (Gamma-glutamylcarboxylase).
AF0653 87	1018	O88496	1019	M81592	1020	P38435	1021	88.42	Gamma-glutamyl carboxylase	AF065387 Rattus norvegicus vitamin K-dependent gamma-glutamyl carboxylase mRNA, complete cds	Vitamin K-dependent gamma-carboxylase (EC 6.4.-.-) (Gamma-glutamylcarboxylase).

Table 2.

AF065387	1022	O88496	1023	M81592	1024	P38435	1025	88.42	Gamma-glutamyl carboxylase		AF065387 Rattus norvegicus vitamin K-dependent gamma-glutamyl carboxylase mRNA, complete cds	Vitamin K-dependent gamma-glutamyl carboxylase (EC 6.4.2.1) (Gamma-glutamyl carboxylase).
AF065438	1026	AAC17177	1027	NIM_005567	1028	NP_005558	1028	68	Rattus norvegicus mama mRNA, complete cds	C07012	AF065438 Rattus norvegicus mama mRNA, complete cds /cds=(155,1879) /gb=AF065438 /gi=3162827 /ug=Rn.3251 /len=2151	
AF065438	1030	AAC17177	1031	NIM_005567	1032	NP_005558	1033	88	Rattus norvegicus mama mRNA, complete cds	C07012	AF065438 Rattus norvegicus mama mRNA, complete cds /cds=(155,1879) /gb=AF065438 /gi=3162827 /ug=Rn.3251 /len=2151	
AF067790	1034	O70489	1036	NIM_005155	1036	Q8UIMR5	1037	80	Truncated palmitoyl-protein thioesterase (PPT-2)		AF067790 Rattus norvegicus truncated palmitoyl-protein thioesterase (PPT-2) mRNA, complete cds /cds=(113,589) /gb=AF067790 /gi=3201901 /ug=Rn.8895 /len=1024	Lysosomal . Palmitoyl-protein thioesterase 2 precursor (EC 3.1.2.22) (Palmitoyl-protein hydrolase 2) (PPT-2).
AF068860	1038	O89117	1039	NIM_005218	1040	Q09753	1041	50	Beta defensin-1		AF068860 Rattus norvegicus beta defensin-1 mRNA, complete cds	Beta-defensin 1 precursor (BD-1) (RBD-1).
AF069525	1042	P97570	1043	AL136710	1044	A55575	1045	93.5	Rattus norvegicus 190 kDa ankyrin isoform mRNA, complete cds		AF069525 Rattus norvegicus 190 kDa ankyrin isoform mRNA, complete cds /cds=(84,5372) /gb=AF069525 /gi=3202045 /ug=Rn.236 /len=6184	



Table 2.

AF069775	1046	AAC21580	1047	AF002246	1048	AAB60937	1049	90	Rattus norvegicus L1-like cell adhesion molecule (CALL) mRNA
AF071225	1050	AAC25590	1051	NIM_000942	1052	P23284	1053	87	Cyclophilin B mRNA, complete cds
AF071495	1054	AAC23892	1055	NIM_005505	1056	NP_005496	1057	73	pneumocyte CD36-related class B scavenger receptor (SRB1R) mRNA, complete cds
AF072411	1058	Q07869	1059	BC008406	1060	P16671	1061	84.46	Rattus norvegicus fatty acid translocase/CD36 mRNA, complete cds
									Platelet glycoprotein IV (GPIV) (GPIIb) (CD36 antigen) (PAS IV) (PAS-4 protein) (Fatty acid transport protein) (Fatty acid translocase)(Adipocyte membrane protein).
									Integral membrane protein.

Table 2.

AF072411	1062	Q07969	1063	BC008408	1064	P16671	1065	84,46	fatty acid translocase/C D36 mRNA	AF072411 Rattus norvegicus fatty acid translocase/CD36 mRNA, complete cds	Integral membrane protein.	Platelet glycoprotein IV (GPIV) (GPIIB) (CD36 antigen) (PAS IV) (PAS- 4 protein) (Fatty acid transport protein) (Fatty acid translocase)(Adi pocyte membrane protein).
AF072439	1066	O88553	1067	AK000351	1068	Q9Y6Q3	1069	86,79	Rattus norvegicus zinc-finger protein-37 mRNA, complete cds	AF072439 Rattus norvegicus zinc-finger protein-37 mRNA, complete cds	Nuclear .	Zinc finger protein 37 (Zfp- 37).
AF072439	1070	O88553	1071	AK000351	1072	Q9Y6Q3	1073	86,79	Rattus norvegicus zinc-finger protein-37 mRNA, complete cds	AF072439 Rattus norvegicus zinc-finger protein-37 mRNA, complete cds	Nuclear .	Zinc finger protein 37 (Zfp- 37).
AF074609	1074	AAC33332	1075	No human homolog found.	No Human Protein Found.	No			MHC class I antigen (RT1.EC3) gene	AF074609mRNA Rattus norvegicus MHC class I antigen (RT1.EC3) gene, complete cds		
AF076183	1076	AAC31815	1077	AL137271	1078	XP_006499		90,23	Cytosolic sorting protein PACS-1a	AF076183 Rattus norvegicus cytosolic sorting protein PACS-1a (PACS-1) mRNA, complete cds		
AF076183	1079	AAC31815	1080	AL137271	1081	XP_006499		90,23	Cytosolic sorting protein PACS-1a	AF076183 Rattus norvegicus cytosolic sorting protein PACS-1a (PACS-1) mRNA, complete cds		

Table 2.

AF0773 54	1082	Q63617	1083	BC002526	1084	P34932	1085	93.17	Rattus norvegicus ischemia responsive 94 kDa protein (Irp94) mRNA, complete cds	AF077354 Rattus norvegicus ischemia responsive 94 kDa protein (Irp94) mRNA, complete cds
AF0773 54	1086	Q63617	1087	BC002526	1088	P34932	1089	93.17	Rattus norvegicus ischemia responsive 94 kDa protein (Irp94) mRNA, complete cds	AF077354 Rattus norvegicus ischemia responsive 94 kDa protein (Irp94) mRNA, complete cds
AF0773 54	1090	Q63617	1091	BC002526	1092	P34932	1093	93.17	Rattus norvegicus ischemia responsive 94 kDa protein (Irp94) mRNA, complete cds	AF077354 Rattus norvegicus ischemia responsive 94 kDa protein (Irp94) mRNA, complete cds
AF0773 54	1094	Q63617	1095	BC002526	1096	P34932	1097	93.17	Rattus norvegicus ischemia responsive 94 kDa protein (Irp94) mRNA, complete cds	AF077354 Rattus norvegicus ischemia responsive 94 kDa protein (Irp94) mRNA, complete cds

Table 2.

AF078779	1098	AAC68 885	1099	AW29500 7	1100	CAC408 96	1101	94.17	Rattus norvegicus putative four repeat ion channel mRNA, complete cds	AF078779 Rattus norvegicus putative four repeat ion channel mRNA, complete cds
AF078779	1102	AAC68 885	1103	AW29500 7	1104	CAC408 96	1105	94.17	Rattus norvegicus putative four repeat ion channel mRNA, complete cds	AF078779 Rattus norvegicus putative four repeat ion channel mRNA, complete cds
AF078779	1106	AAC68 885	1107	AW29500 7	1108	CAC408 96	1108	94.17	Rattus norvegicus putative four repeat ion channel mRNA, complete cds	AF078779 Rattus norvegicus putative four repeat ion channel mRNA, complete cds
AF078779	1110	AAC68 885	1111	AW29500 7	1112	CAC408 96	1113	94.17	Rattus norvegicus putative four repeat ion channel mRNA, complete cds	AF078779 Rattus norvegicus putative four repeat ion channel mRNA, complete cds
AF078779	1114	AAC68 885	1115	AW29500 7	1116	CAC408 96	1117	94.17	Rattus norvegicus putative four repeat ion channel mRNA, complete cds	AF078779 Rattus norvegicus putative four repeat ion channel mRNA, complete cds

Table Z.

AF078779	1118	AAC88 885	1119	AW29500 7	1120	CAC406 96	1121	94,17	Rattus norvegicus putative four repeat ion channel mRNA, complete cds	AF078779 Rattus norvegicus putative four repeat ion channel mRNA, complete cds
AF078773	1122	AAC29 484	1123	XM_04563 8		XP_045 538		100	splicing factor 1	AF078773 Rattus norvegicus splicing factor 1 homolog mRNA, partial cds
AF080468	1124	AAC79 839	1125	NIM_0014 67	1126	O43828	1127	82	Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds	AF080468 Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds
AF080468	1128	AAC79 839	1128	NIM_0014 67	1130	O43828	1131	82	Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds	AF080468 Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds
AF080468	1132	AAC79 839	1133	NIM_0014 67	1134	O43828	1135	93	Rattus norvegicus putative glycogen storage disease type 1b protein // glucose-6- phosphatase	AF080468 Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds

Table 2.

AF080468	1136	AAC78 839	1137	NM_0014 67	1138	O43826	1139	82	Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds	AF080468 Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds
AF080468	1140	AAC78 839	1141	NM_0014 67	1142	O43826	1143	82	Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds	AF080468 Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds
AF080468	1144	AAC78 839	1145	NM_0014 67	1146	O43826	1147	93	Rattus norvegicus putative glycogen storage disease type 1b protein // glucose-6- phosphatase	AF080468 Rattus norvegicus putative glycogen storage disease type 1b protein mRNA, complete cds
AF081144	1148	AAC82 650	1148	AL157903	1150	CAC197 96	1151	53	CL1AA mRNA	AF081144 Rattus norvegicus CL1AA mRNA, complete cds
AF081144	1152	AAC82 650	1153	No human homolog found.	No	Human Protein Found.		42	CL1AA mRNA	AF081144 Rattus norvegicus CL1AA mRNA, complete cds



Table 2.

AF084205	1168	AAC71014	1169	AB037782	1170	XP_030845	1171	93.48	Rattus norvegicus serine/threonine protein kinase TAO1 mRNA	AF084205 Rattus norvegicus serine/threonine protein kinase TAO1 mRNA, complete cds	ARF GTPase-activating protein GIT1 (G protein-coupled receptor kinase-interactor 1).
AF085693	1172	Q8Z272	1173	BG984848	1174	NP_054748	1175	94.93	G protein-coupled receptor kinase-associated ADP ribosylation factor GTPase-activating protein	AF085693 Rattus norvegicus G protein-coupled receptor kinase-associated ADP ribosylation factor GTPase-activating protein (GIT1) mRNA, complete cds	ARF GTPase-activating protein GIT1 (G protein-coupled receptor kinase-interactor 1).
AF085693	1176	Q8Z272	1177	BG984848	1178	NP_054749	1178	94.93	G protein-coupled receptor kinase-associated ADP ribosylation factor GTPase-activating protein	AF085693 Rattus norvegicus G protein-coupled receptor kinase-associated ADP ribosylation factor GTPase-activating protein (GIT1) mRNA, complete cds	ARF GTPase-activating protein GIT1 (G protein-coupled receptor kinase-interactor 1).
AF086624	1180	AAC68900	1181	AL526992	1182	AAA60089	1183	96.05	serine threonine kinase	AF086624 Rattus norvegicus serine threonine kinase (pim-3) mRNA, complete cds	
AF086758	1184	AAD09008	1185	NM_001046	1186	P55011	1187	80	Na-K-2Cl cotransporter (Nkcc1)	AF086758 Rattus norvegicus Na-K-2Cl cotransporter (Nkcc1) mRNA, partial cds	
AF087431	1188	AAC36477	1189	XM_035229	1190	XP_035229	1191	78	glycoprotein processing glucosidase I	AF087431 Rattus rattus glycoprotein processing glucosidase I mRNA, complete cds	
AF087431	1192	AAC36477	1193	XM_035229	1194	XP_035229	1195	78	glycoprotein processing glucosidase I	AF087431 Rattus rattus glycoprotein processing glucosidase I mRNA, complete cds	



Table 2.

AF0876 97	1196	AAC78 485	1197	U37707	1198	Q13388	1199	87.34	dig 3	AF087697 Rattus norvegicus dig 3 mRNA, partial cds		
AF0878 44	1200	AAC35 372	1201	X08882	1202	CAA289 99	1203	57	Rattus norvegicus monocytic differentiation antigen CD14 gene promoter region and partial cds	AF087844mRNA Rattus norvegicus monocytic differentiation antigen CD14 gene, promoter region and partial cds		
AF0901 34	1204	AAC78 073	1205	AF087693	1206	NP_004 655	1207	92.13	Rattus norvegicus lin-7-Ba mRNA, complete cds	AF090134 Rattus norvegicus lin-7-Ba mRNA, complete cds		
AF0912 47	1208	O88944	1209	NM_0045 19	1210	O43525	1211	92.96	Rattus norvegicus potassium channel (KCNQ3)	AF091247 Rattus norvegicus potassium channel (KCNQ3) mRNA, complete cds	Integral membrane protein.	Voltage-gated potassium channel protein KQT-like 3.
AF0915 61	1212	AAC64 584	1213	AF321237	1214	AAG452 06	1215	33	hP3 olfactory receptor	AF091561 Rattus norvegicus isolate AIV-LY1 olfactory receptor mRNA, partial cds		
AF0915 63	1218	AAC64 586	1217	AF321237	1218	AAG452 05	1219	49	Rattus norvegicus isolate QIL-LD1 olfactory receptor	AF091563 Rattus norvegicus isolate QIL-LD1 olfactory receptor mRNA, partial cds		
AF0915 63	1220	AAC64 586	1221	AF321237	1222	AAG452 05	1223	49	Isolate QIL-LD1 olfactory receptor mRNA	AF091563 Rattus norvegicus isolate QIL-LD1 olfactory receptor mRNA, partial cds		

Table 2.

AF091569	1224	AAC64 591	1225	AF087916	1226	AAF373 09	1227	70	Rattus norvegicus isolate HGL- SP3 olfactory receptor	AF091569 Rattus norvegicus isolate HGL- SP3 olfactory receptor mRNA, partial cds
AF091570	1228	CAA88 842	1229	AF087916	1230	P30953	1231	69	Rattus norvegicus isolate HGL- SP2 olfactory receptor pseudogene, partial sequence	AF091570 Rattus norvegicus isolate HGL- SP2 olfactory receptor pseudogene, partial sequence
AF091578	1232	AAC84 588	1233	NIM_0086 37	1234	NP_006 628	1235	47	Rattus norvegicus isolate EVA- TN1 olfactory receptor mRNA, partial cds	AF091578 Rattus norvegicus isolate EVA- TN1 olfactory receptor mRNA, partial cds
AF091834	1236	AAC61 595	1237	NIM_0081 78	1238	P46459	1239	100	N- ethylmaleimid e sensitive factor NSF	AF091834 Rattus norvegicus N- ethylmaleimide sensitive factor NSF mRNA, partial cds
AF091834	1240	AAC61 595	1241	NIM_0081 78	1242	P46459	1243	100	N- ethylmaleimid e sensitive factor NSF	AF091834 Rattus norvegicus N- ethylmaleimide sensitive factor NSF mRNA, partial cds

Table 2.

AF092450	1244	Q8R237	1245	AF007134	1246	Q8UQF2	1247	90.85	Rattus norvegicus JIP-1b mRNA, complete cds	AF092450 Rattus norvegicus JIP-1 related protein (JRP) mRNA, complete cds	Cytoplasmic . Accumulates in cell surface projections . Under certain stress conditions, translocates to the perinuclear region of neurons . In Insulin-secreting cells, de <sup>a</sup>	C-Jun-amino-terminal kinase interacting protein 1 (JNK-1) (JIP-1) (JNK MAP kinase scaffold protein 1) (Islet-brain-1) (IB-1) (Mitogen-activated protein kinase 8-interacting protein 1
AF092523	1248	Q88884	1249	BC000729	1250	Q92687	1251	44	A-kinase anchor protein 84 mRNA	AF092523 Rattus norvegicus A-Kinase anchor protein 84 mRNA, complete cds	Mitochondrial outer membrane .	"A kinase anchor protein 1, mitochondrial precursor (Protein kinase Anchoring protein 1) (PRKA1) (A-kinase anchor protein 121 kDa) (AKAP121) (Dual specificity A-Kinase anchoring protein 1) (D-AKAP-1)"
AF093268	1252	AAC71032	1253	Y17829	1254	NP_004263	1255	94.46	Homer-1c	AF093268 Rattus norvegicus homer-1c mRNA, complete cds		

Table 2.

AF095576	1256	AAC84 408	1257	AB000520	1258	BAA225 14	1259	85.28	APS protein	AF095576 Rattus norvegicus APS protein mRNA, complete cds		
AF095741	1260	AAC84 190	1261	AK000612	1262	XP_054 663	1263	84.37	MG87	AF095741 Rattus norvegicus MG87 mRNA, complete cds		
AF095741	1264	AAC84 190	1265	AK000612	1266	XP_054 663	1267	84.37	MG87	AF095741 Rattus norvegicus MG87 mRNA, complete cds		
AF095927	1268	AAC97 497	1269	AK055417	1270	NP_110 395	1271	90.09	Protein phosphatase 2C	AF095927 Rattus norvegicus protein phosphatase 2C mRNA, complete cds		
AF095927	1272	AAC97 497	1273	AK055417	1274	NP_110 395	1275	90.09	Protein phosphatase 2C	AF095927 Rattus norvegicus protein phosphatase 2C mRNA, complete cds		
AF095927	1276	AAC97 497	1277	AK055417	1278	NP_110 395	1279	90.09	Protein phosphatase 2C	AF095927 Rattus norvegicus protein phosphatase 2C mRNA, complete cds		
AF095927	1280	AAC97 497	1281	AK055417	1282	NP_110 395	1283	90.09	Protein phosphatase 2C	AF095927 Rattus norvegicus protein phosphatase 2C mRNA, complete cds		
AF096835	1284	Q8Z1Z1	1285	AF110146	1286	Q8NZJ5	1287	92.98	Rattus norvegicus pancreatic eukaryotic initiation factor 2 alpha-subunit kinase (PEK) mRNA	AF096835 Rattus norvegicus pancreatic eukaryotic initiation factor 2 alpha-subunit kinase (PEK) mRNA, complete cds	Type I membrane protein. Endoplasmic reticulum.	Eukaryotic translation initiation factor 2 alpha kinase 3 precursor(EC 2.7.1.-) (PRKR-like endoplasmic reticulum kinase) (Pancreatic IF2-alpha kinase).



Table Z.

AF098093	1308	Q98462	1309	NM_003342	1310	Q98462	1311	95.71	Ubiquitin-conjugating enzyme UBC7	AF098093 Rattus norvegicus ubiquitin-conjugating enzyme UBC7 mRNA, complete cds	Ubiquitin-conjugating enzyme E2 G1 (EC 6.3.2.19) (Ubiquitin-proteinligase G1) (Ubiquitin carrier protein G1) (E217K) (UBC7).
AF098093	1312	Q98462	1313	NM_003342	1314	Q98462	1315	95.71	Ubiquitin-conjugating enzyme UBC7	AF098093 Rattus norvegicus ubiquitin-conjugating enzyme UBC7 mRNA, complete cds	Ubiquitin-conjugating enzyme E2 G1 (EC 6.3.2.19) (Ubiquitin-proteinligase G1) (Ubiquitin carrier protein G1) (E217K) (UBC7).
AF098093	1316	Q98462	1317	NM_003342	1318	Q98462	1319	95.71	Ubiquitin-conjugating enzyme UBC7	AF098093 Rattus norvegicus ubiquitin-conjugating enzyme UBC7 mRNA, complete cds	Ubiquitin-conjugating enzyme E2 G1 (EC 6.3.2.19) (Ubiquitin-proteinligase G1) (Ubiquitin carrier protein G1) (E217K) (UBC7).
AF098093	1320	Q98462	1321	NM_003342	1322	Q98462	1323	95.71	Ubiquitin-conjugating enzyme UBC7	AF098093 Rattus norvegicus ubiquitin-conjugating enzyme UBC7 mRNA, complete cds	Ubiquitin-conjugating enzyme E2 G1 (EC 6.3.2.19) (Ubiquitin-proteinligase G1) (Ubiquitin carrier protein G1) (E217K) (UBC7).

Table 2.

AF102552	1324	AAC78 143	1325	NM_0211 30	1326	P05082	1327	96	Rattus norvegicus 270 kDa ankyrin G isoform mRNA, partial cds
AF106563	1328	AAC83 936	1329	AF070598	1330	Q8NP58	1331	89.06	AF106563 Rattus norvegicus P-glycoprotein-like ATP-binding cassette transporter mRNA, complete cds
AF109405	1332	O88871	1333	AB015334	1334	O75899	1335	93.83	AF109405 Rattus norvegicus GABA-B receptor 2 mRNA, complete cds
AJ000556	1336	CAA04 187	1337	XM_001387		XP_001387		89	AJ000556cds RNJAK1 Rattus norvegicus mRNA for Janus protein tyrosine kinase 1, JAK1
AJ001029	1338	O55170	1339	BC007595	1340	P56693	1341	91.28	AJ001029 Rattus norvegicus mRNA for Sox10 protein /cds=(582,1982) /gb=AJ001029 /gi=2695880 /ug=Rn.10883 /len=3030
									INTEGRAL MEMBRANE PROTEIN. MOREOVER COEXPRESSION OF GABA-B-R1 AND GABA-B-R2 (GABA-B-R2) APPEARS TO BE A PREREQUISITE FOR MATURATION AND TRANSPORT OF GABA-B-R1 TO THE PLASMA MEMBRANE.  Nuclear.  Transcription factor SOX-10.

Table 2.

AJ001290	1342	CAA04 650	1343	XM_009743	XP_009743	93	Sodium myo- inositol transporter (SMIT)	AJ001290cds RNSMIT Rattus norvegicus mRNA for sodium myo-Inositol transporter (SMIT)
AJ001320	1344	CAA04 681	1345	AK058011	NP_003820	91.64	Multiple PDZ domain protein	AJ001320 Rattus norvegicus mRNA for multi PDZ domain protein /cds=(183,6347) /gb=AJ001320 /gi=2959978 /ug=Rn.6684 /len=7497
AJ001320	1348	CAA04 681	1349	AK058011	NP_003820	91.64	Multiple PDZ domain protein	AJ001320 Rattus norvegicus mRNA for multi PDZ domain protein /cds=(183,6347) /gb=AJ001320 /gi=2959978 /ug=Rn.6684 /len=7497
AJ001713	1352	T31089	1353	AK001923	NP_008832	92.46	Rattus norvegicus mRNA for myosin- RhoGAP protein Myr 7	AJ001713 RNMYP7 Rattus norvegicus mRNA for myosin-RhoGAP protein Myr 7
AJ001828	1356	CAA05 100	1357	AF257659	O43852	91.5	CBP-50	AJ001828 RNAJ1929 Rattus norvegicus mRNA for of CBP-50 protein
AJ004858	1360	S19597	1361	X73039	S34118	88	SRY-box containing gene 11	AJ004858 RNAJ4858 Rattus norvegicus mRNA for Sry-related HMG-box protein Sox11
AJ004912	1364	Q63584	1365	X97442	P49755	90.23	Integral membrane protein Tmp21 I (p23)	AJ004912 RNJ004912 Rattus norvegicus mRNA for integral membrane protein Tmp21-I (p23)
AJ005046	1368	CAA06 313	1369	NIM_003837	O00757	95	Rattus norvegicus mRNA for muscle fructose-1,6- bisphosphatas e	AJ005046 RNAJ5046 Rattus norvegicus mRNA for muscle fructose-1,6- bisphosphatase
								TYPE I MEMBRANE PROTEIN. GOLGI CISTERNAE
								Transmembrane protein Tmp21 precursor (21 kDa Transmembrane trafficking protein) (Fragment).





Table 2.

AJ007627	1420	CAA07586	1421	AB033108	1422	XP_035483	1423	89.17	ELK channel 2	AJ007627 RNO7627 Rattus norvegicus mRNA for ELK channel 2		
AJ007632	1424	CAA07591	1425	XM_008403		XP_008403		61	ELK channel 3 (Potassium channel)	AJ007632 RNO7632 Rattus norvegicus mRNA for ELK channel 3, partial		
AJ007632	1426	CAA07591	1427	XM_008403		XP_008403		61	ELK channel 3 (Potassium channel)	AJ007632 RNO7632 Rattus norvegicus mRNA for ELK channel 3, partial		
AJ008698	1428	CAA08796	1429	BC014858	1430	P21895	1431	72	Embigin protein	AJ008698 RNO8698 Rattus norvegicus mRNA for embigin protein		
AJ008698	1432	CAA08796	1433	BC014858	1434	P21895	1435	72	Embigin protein	AJ008698 RNO8698 Rattus norvegicus mRNA for embigin protein		
AJ011607	1436	CAA09722	1437	NM_000947	1438	P49643	1439	89	DNA polymerase alpha subunit III (primase)	AJ011607 RNO011607 Rattus norvegicus mRNA for DNA polymerase alpha subunit III (primase), partial		
AJ011607	1440	CAA09722	1441	NM_000947	1442	P49643	1443	89	DNA polymerase alpha subunit III (primase)	AJ011607 RNO011607 Rattus norvegicus mRNA for DNA polymerase alpha subunit III (primase), partial		
AJ012603	1444	Q9Z1K9	1445	U69612	1446	P78536	1447	88.87	TNF-alpha converting enzyme (TACE)	AJ012603cds RNO012603 Rattus norvegicus mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase edomain 17) (TNF-alpha converting enzyme) (TNF-alpha convertase).

TABLE 2.

AJ012603	1448	Q8Z1K <sub>9</sub>	1449	U69612	1450	P78536	1451	88.87	TNF-alpha converting enzyme (TACE)	AJ012603cds RNO012603 mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase domain 17) (TNF-alpha converting enzyme) (TNF-alpha convertase).
AJ012603	1452	Q8Z1K <sub>9</sub>	1453	U69612	1454	P78536	1455	88.87	TNF-alpha converting enzyme (TACE)	AJ012603cds RNO012603 mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase domain 17) (TNF-alpha converting enzyme) (TNF-alpha convertase).
AJ012603	1456	Q8Z1K <sub>9</sub>	1457	U69612	1458	P78536	1459	88.87	TNF-alpha converting enzyme (TACE)	AJ012603cds RNO012603 mRNA for TNF-alpha converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase domain 17) (TNF-alpha converting enzyme) (TNF-alpha convertase).

Table 2.

AJ012603	1460	Q9Z1K <sub>9</sub>	1461	U69612	1462	P78536	1463	88.87	TNF- $\alpha$ converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF- $\alpha$ converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase domain 17) (TNF- $\alpha$ converting enzyme) (TNF- $\alpha$ convertase).
AJ012603	1464	Q9Z1K <sub>9</sub>	1465	U69612	1466	P78536	1467	88.87	TNF- $\alpha$ converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF- $\alpha$ converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase domain 17) (TNF- $\alpha$ converting enzyme) (TNF- $\alpha$ convertase).
AJ012603	1468	Q9Z1K <sub>9</sub>	1469	U69612	1470	P78536	1471	88.87	TNF- $\alpha$ converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF- $\alpha$ converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase domain 17) (TNF- $\alpha$ converting enzyme) (TNF- $\alpha$ convertase).

Table 2.

AJ012603	1472	Q9Z1K <sub>9</sub>	1473	U69612	1474	P78536	1475	88.87	TNF- $\alpha$ converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF- $\alpha$ converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase edomain 17) (TNF- $\alpha$ converting enzyme) (TNF- $\alpha$ convertase).
AJ012603	1476	Q9Z1K <sub>9</sub>	1477	U69612	1478	P78536	1479	88.87	TNF- $\alpha$ converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF- $\alpha$ converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase edomain 17) (TNF- $\alpha$ converting enzyme) (TNF- $\alpha$ convertase).
AJ012603	1480	Q9Z1K <sub>9</sub>	1481	U69612	1482	P78536	1483	88.87	TNF- $\alpha$ converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF- $\alpha$ converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase edomain 17) (TNF- $\alpha$ converting enzyme) (TNF- $\alpha$ convertase).

Table 2.

AJ012603	1484	Q9Z1K <sub>9</sub>	1485	U69612	1486	P78536	1487	88.87	TNF- $\alpha$ converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF- $\alpha$ converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase domain 17) (TNF- $\alpha$ converting enzyme) (TNF- $\alpha$ convertase).
AJ012603	1488	Q9Z1K <sub>9</sub>	1489	U69612	1490	P78536	1491	88.87	TNF- $\alpha$ converting enzyme (TACE)	AJ012603UTR#1 RNO012603 Rattus norvegicus mRNA for TNF- $\alpha$ converting enzyme (TACE)	Type I membrane protein.	ADAM 17 precursor (EC 3.4.24.-) (A disintegrin and metalloproteinase domain 17) (TNF- $\alpha$ converting enzyme) (TNF- $\alpha$ convertase).
AJ132230	1492	P97583	1493	AJ238044	1494	P46663	1495	81.38	B1 bradykinin receptor	AJ132230 RNO132230 Rattus norvegicus mRNA for B1 bradykinin receptor	Integral membrane protein.	B1 bradykinin receptor (BK-1 receptor) (B1R) (Kinin B1 receptor)(KB1).
AJ132230	1496	P97583	1497	AJ238044	1498	P46663	1499	81.38	B1 bradykinin receptor	AJ132230 RNO132230 Rattus norvegicus mRNA for B1 bradykinin receptor	Integral membrane protein.	B1 bradykinin receptor (BK-1 receptor) (B1R) (Kinin B1 receptor)(KB1).

Table 2.

AJ2233	1500	211623	1501	BC015797	1502	QBUBX3	1503	86.37	Rattus norvegicus mRNA for mitochondrial dicarboxylate carrier (see 686)	AJ223355 RNAJ3355 Rattus norvegicus mRNA for mitochondrial dicarboxylate carrier
55		2A								
AJ2233	1504	211623	1505	BC015797	1506	QBUBX3	1507	86.37	Rattus norvegicus mRNA for mitochondrial dicarboxylate carrier (see 686)	AJ223355 RNAJ3355 Rattus norvegicus mRNA for mitochondrial dicarboxylate carrier
55		2A								
AJ2241	1508	CAA11	1509	AK001415	1510	NP_003	1511	82.5	Peroxisomal membrane protein Pmp26p (Peroxin-11) /cds=(138,878) /gb=AJ224120 /gi=3150212 /ug=Rn.14519 /len=1184	AJ224120 Rattus norvegicus peroxisomal membrane protein Pmp26p (Peroxin-11) /cds=(138,878) /gb=AJ224120 /gi=3150212 /ug=Rn.14519 /len=1184
20		838								
AJ2248	1512	AAA797	1513	XM_050153		XP_050		93	Collagen alpha 1 type II, partial CDS	AJ224879 Rattus norvegicus mRNA for collagen alpha 1 type II, partial CDS /cds=(0,146) /gb=AJ224879 /gi=3164120 /ug=Rn.10124 /len=580
79		80				153				
C06598	1514	No Rat Protein Found.		M75099	1515	P26885	1516	90.95	Rat pancreatic islet cDNA Rattus norvegicus cDNA similar to rapamycin-binding protein FKBP-13, mRNA sequence	C06598 C06598 Rat pancreatic islet cDNA Rattus norvegicus cDNA similar to rapamycin-binding protein FKBP-13, mRNA sequence [Rattus norvegicus]
D00092	1517	BAA209	1518	XM_041355	1519	XP_041	1520	76	70 kd mitochondrial autoantigen	D00092 RATMTAA Rattus norvegicus mRNA for 70 kd mitochondrial autoantigen, partial cds
		56				355				
D00189	1521	BAA001	1522	ATP1A3		S00801	1523	99	Na <sup>+</sup> , K <sup>+</sup> -ATPase alpha-subunit, complete cds	D00189 Rattus norvegicus mRNA for Na <sup>+</sup> , K <sup>+</sup> -ATPase alpha-subunit, complete cds /cds=(140,3181) /gb=D00189 /gi=220825 /ug=Rn.10312 /len=3557
		29								

L48440

Table 2.

D00189	1524	BAA001 29	1525	ATP1A3	S00801	1526	99	Na <sup>+</sup> , K <sup>+</sup> - ATPase alpha- subunit	D00189 Rattus norvegicus mRNA for Na <sup>+</sup> , K <sup>+</sup> - ATPase alpha-subunit, complete cds /cds=(140,3181) /gb=D00189 /gi=220825 /ug=Rn.10312 /len=3557	
D00512	1527	BAA004 01	1528	NM_0000 19	P24752	1530	76	mitochondrial acetoacetyl- CoA thiolase	D00512 RATACAL Rattus sp. mRNA for mitochondrial acetoacetyl-CoA thiolase precursor, complete cds	
D00512	1531	BAA004 01	1532	NM_0000 19	P24752	1534	76	mitochondrial acetoacetyl- CoA thiolase	D00512 RATACAL Rattus sp. mRNA for mitochondrial acetoacetyl-CoA thiolase precursor, complete cds	
D00569	1535	Q64591	1536	L26050	Q16698	1538	81	Rattus norvegicus mRNA for 2,4- dienoyl-CoA reductase precursor, complete cds	D00569 Rat mRNA for 2,4-dienoyl-CoA reductase (EC 1.3.1.34) /cds=(18,1025) /gb=D00569 /gi=220731 /ug=Rn.2854 /len=1118	Mitochondrial "2,4-dienoyl- CoA reductase, mitochondrial precursor (EC 1.3.1.34) (2,4- dienoyl-CoA reductase [NADPH]) (4- enoyl-CoA reductase [NADPH])."
D00569	1539	Q64591	1540	L26050	Q16698	1542	81	Rattus norvegicus mRNA for 2,4- dienoyl-CoA reductase precursor, complete cds	D00569 Rat mRNA for 2,4-dienoyl-CoA reductase (EC 1.3.1.34) /cds=(18,1025) /gb=D00569 /gi=220731 /ug=Rn.2854 /len=1118	Mitochondrial "2,4-dienoyl- CoA reductase, mitochondrial precursor (EC 1.3.1.34) (2,4- dienoyl-CoA reductase [NADPH]) (4- enoyl-CoA reductase [NADPH])."



Table 2.

D00569	1543	Q64591	1544	L26050	1545	Q16698	1546	81	Rattus norvegicus mRNA for 2,4-dienoyl-CoA reductase precursor, complete cds	D00569 Rat mRNA for 2,4-dienoyl-CoA reductase (EC 1.3.1.34) /cds=(18,1025) /gb=D00569 /gi=220731 /ug=Rn.2854 /len=1118	Mitochondrial	"2,4-dienoyl-CoA reductase, mitochondrial precursor (EC 1.3.1.34) (2,4-dienoyl-CoA reductase [NADPH]) (4-enoyl-CoA reductase [NADPH])."
D00636	1547	BAA00530	1548	NM_000398	1549	P00387	1550	83	NADH-cytochrome b5 reductase	D00636cds RATB5RM Rattus sp. mRNA for NADH-cytochrome b5 reductase, complete cds		
D00636	1551	BAA00530	1552	NM_000398	1553	P00387	1554	83	NADH-cytochrome b5 reductase	D00636Poly_Alita#1 RATB5RM Rattus sp. mRNA for NADH-cytochrome b5 reductase, complete cds		
D00688	1555	BAA00592	1556	NM_000240	1557	P21397	1558	82	monoamine oxidase A	D00688 RATMAOA Rat monoamine oxidase A gene, complete cds		
D00729	1559	BAA00629	1560	Z25820	1561	P42126	1562	83.33	Delta3, delta2-enoyl-CoA isomerase; SEVERAL EXONS; ONLY 1 & 2 LISTED ON THIS SHEET	D00729 Rat mRNA for delta3, delta2-enoyl-CoA isomerase /cds=(77,973) /gb=D00729 /gi=220733 /ug=Rn.24989 /len=1080		
D00729	1563	BAA00629	1564	Z25820	1565	P42126	1566	83.33	Delta3, delta2-enoyl-CoA isomerase; SEVERAL EXONS; ONLY 1 & 2 LISTED ON THIS SHEET	D00729 Rat mRNA for delta3, delta2-enoyl-CoA isomerase /cds=(77,973) /gb=D00729 /gi=220733 /ug=Rn.24989 /len=1080		

Table 2.

D00913	1567	BAA00759	1568	NM_000201	1569	P06362	1570	50	Intercellular adhesion molecule-1	D00913 RAT1CAM Rattus sp. mRNA for Intercellular adhesion molecule-1, complete cds	Membrane-bound.	Syntaxin 1A (Synaptotagmin associated 35 kDa protein) (P35A)(Neuron-specific antigen HPC-1).
D00913	1571	BAA00759	1572	NM_000201	1573	P06362	1574	50	Intercellular adhesion molecule-1	D00913 RAT1CAM Rattus sp. mRNA for Intercellular adhesion molecule-1, complete cds		
D10392	1575	P32851	1576	BC003011	1577	Q16923	1578	92.7	Rattus norvegicus syntaxin A mRNA, 3' end	D10392 Rat mRNA for HPC-1 antigen, C-terminal /cds=(0.897) /gb=D10392 /gi=220778 /ug=Rn.8943 /len=2130		
D10587	1579	BAA01444	1580	D12676	1581	Q14108	1582	82	85kDa sialoglycoprotein (LGP85)	D10587 RATLGP85 Rattus sp. mRNA for 85kDa sialoglycoprotein (LGP85), complete cds		
D10587	1583	BAA01444	1584	D12676	1585	Q14108	1586	82	85kDa sialoglycoprotein (LGP85)	D10587 RATLGP85 Rattus sp. mRNA for 85kDa sialoglycoprotein (LGP85), complete cds		
D10655	1587	P08461	1588	Y00978	1589	P10515	1590	78	Dihydrolipoamide acetyltransferase	D10655 RATPDCE2 Rat mRNA for dihydrolipoamide acetyltransferase	Mitochondrial matrix.	Dihydrolipoamide acetyltransferase component of pyruvate dehydrogenase complex (EC 2.3.1.12) (E2) (PDC-E2) (70 kDa mitochondrial autoantigen of primary biliary cirrhosis) (PBC) (Fragment).

Table 2.

D10655	1591	P08461	1592	Y00978	1593	P10515	1594	79	Dihydrolipoamide acetyltransferase	D10655 RATPDCE2 Rat mRNA for dihydrolipoamide acetyltransferase	Mitochondrial matrix.	Dihydrolipoamide acetyltransferase component of pyruvate dehydrogenase complex (EC 2.3.1.12) (E2) (PDC-E2) (70 kDa mitochondrial autoantigen of primary biliary cirrhosis) (PBC) (Fragment).
D10666	1595	P28677	1598	AF039555	1597	P28677	1598	91.73	Neural vishin-like protein 1	D10666 Rat mRNA for neural vishin-like protein (NVP), complete cds /cds=(239,814) /gb=D10666 /gi=220827 /ug=Rn.10582 /len=1051		Vishin-like protein 1 (VILP-1) (Neural vishin-like protein 1) (NVL-1) (NVP-1) (21 kDa CABP) (Neurocalcin alpha) (Hippocalcin-like protein3) (HLP3).
D10706	1599	BAA01549	1600	NM_004152	1601	NP_004143	1602	84	Ornithine decarboxylase antizyme	D10706 RATODCB Rat mRNA for ornithine decarboxylase antizyme, complete cds		
D10706	1603	BAA01549	1604	NM_004152	1605	NP_004143	1606	84	Ornithine decarboxylase antizyme	D10706 RATODCB Rat mRNA for ornithine decarboxylase antizyme, complete cds		
D10706	1607	BAA01549	1608	NM_004152	1609	NP_004143	1610	84	Ornithine decarboxylase antizyme	D10706cds#2 RATODCB Rat mRNA for ornithine decarboxylase antizyme, complete cds		

Table Z.

D10706	1611	BAA015 49	1612	NIM_0041 52	1613	NP_004 143	1614	84	Ornithine decarboxylase antizyme	D10706cds#2 RATODCB Rat mRNA for ornithine decarboxylase antizyme, complete cds		
D10708	1615	BAA015 49	1616	NIM_0041 52	1617	NP_004 143	1618	84	Ornithine decarboxylase antizyme	D10706cds#3 RATODCB Rat mRNA for ornithine decarboxylase antizyme, complete cds		
D10708	1619	BAA015 49	1620	NIM_0041 52	1621	NP_004 143	1622	84	Ornithine decarboxylase antizyme	D10706cds#3 RATODCB Rat mRNA for ornithine decarboxylase antizyme, complete cds		
D10729	1623	BAA015 72	1624	XM_01687 9		XP_016 879		93	proteasome subunit RC1	D10729 RATPSRC1 Rat mRNA for proteasome subunit RC1		
D10770	1625	BAA016 01	1626	NIM_0027 31	1627	P22894	1628	96	Rat mRNA for beta isoform of catalytic subunit of cAMP- dependent protein kinase	D10770 RATCDPK Rat mRNA for beta isoform of catalytic subunit of cAMP- dependent protein kinase, complete cds		
D10852	1629	Q02527	1630	L48489	1631	Q08327	1632	94,12	Mannoside acetyl glucosaminyl transferase 3	D10852 Rat mRNA for N- acetylglucosaminyltransferase III, complete cds /cds=(57,1687) /gb=D10852 /gi=220821 /ug=Rn.9803 /len=2684	Type II membrane protein. Golgi.	"Beta-1,4- mannosyl- glycoprotein beta-1,4-N- acetylglucosami nyl-transferase (EC 2.4.1.144) (N-glycosyl- oligosaccharide- glycoproteinN- acetylglucosami nyltransferase III) (N- acetylglucosami nyltransferaseIII "

Table 2.

D12498	1633	Q04589	1634	XM_016079	XP_016079	91	FGF receptor-1	D12498 RATFGFR1 Rat mRNA for FGF receptor-1, complete cds	Type I membrane protein.	Basic fibroblast growth factor precursor 1 (EC 2.7.1.112)(FGFR-1) (bFGF-R) (MFR).
D12524	1635	BAA02094	1636	NM_000222	1637	79	o-Kit receptor tyrosine kinase.	D12524 RATCKITPO Rat mRNA for o-Kit receptor tyrosine kinase		
D12573	1639	P32076	1640	NM_002143	1641	90.78	Hippocalcin	D12573 Rat mRNA for neuron specific calcium-binding protein hippocalcin, complete cds /cds=(174,755) /gb=D12573 /g =391860 /ug=Rn.11019 /len=1581		Neuron specific calcium-binding protein hippocalcin (P23K) (Calcium binding protein BDR-2).
D12769	1643	Q01713	1644	NM_001206	1645	91	Rattus norvegicus mRNA for BTE binding protein, complete cds	D12769 RATBTEB Rattus norvegicus mRNA for BTE binding protein	Nuclear.	Transcription factor BTEB1 (Basic transcription element binding protein 1) (BTE-binding protein 1) (GC box binding protein 1).

Table 2.

D12769	1647	Q01713	1648	NM_001206	1649	Q13886	1650	91	Rattus norvegicus mRNA for BTE binding protein, complete cds	AA891873	D12769 RATTBTEB Rattus norvegicus mRNA for BTE binding protein	Nuclear.	Transcription factor BTEB1 (Basic element binding protein 1) (BTE-binding protein 1) (GC box binding protein 1).
D12927	1651	BAA02310	1652	NM_003195	1653	NP_003186	1654	85	transcription elongation factor S-II, complete cds		D12927 RATSIT1 Rattus sp. mRNA for transcription elongation factor S-II, complete cds		
D13122	1655	Q03344	1656	NM_016311	1657	Q8UII2	1658	74	Rattus norvegicus mRNA for ATPase inhibitor protein, complete cds		D13122 RATATPI Rattus norvegicus mRNA for ATPase inhibitor protein, complete cds	Mitochondrial	"ATPase inhibitor, mitochondrial precursor."
D13122	1659	Q03344	1660	NM_016311	1661	Q8UII2	1662	74	ATPase inhibitor (rat mitochondrial IF1 protein)		D13122 RATATPI Rattus norvegicus mRNA for ATPase inhibitor protein, complete cds	Mitochondrial	"ATPase inhibitor, mitochondrial precursor."
D13122	1663	Q03344	1664	NM_016311	1665	Q8UII2	1666	74	Rattus norvegicus mRNA for ATPase inhibitor protein, complete cds	AA891873	D13122 RATATPI Rattus norvegicus mRNA for ATPase inhibitor protein, complete cds	Mitochondrial	"ATPase inhibitor, mitochondrial precursor."
D13122	1667	Q03344	1668	NM_016311	1669	Q8UII2	1670	74	ATPase inhibitor (rat mitochondrial IF1 protein)		D13122 RATATPI Rattus norvegicus mRNA for ATPase inhibitor protein, complete cds	Mitochondrial	"ATPase inhibitor, mitochondrial precursor."

Table 2.

D13126	1671	P35333	1672	NM_002149	1673	P37235	1674	90.54	Neural visinin-like binding protein type 3 (NVP-3)	D13126 Rat mRNA for neural visinin-like Ca2+-binding protein type 3 (NVP-3), complete cds /cds=(291,872) /gb=D13126 /gi=286243 /ug=Rn.9661 /len=1015	Visinin-like protein 3 (VILIP-3) (Neural visinin-like protein 3)(NVL-3) (NVP-3) (Hippocalcin-like protein 1).
D13127	1675	Q06647	1676	AW449493	1677	CAA58219	1678	92.78	Rattus norvegicus mRNA for oligomycin sensitivity conferring protein, complete cds	D13127 RATOSCP Rattus norvegicus mRNA for oligomycin sensitivity conferring protein, complete cds	"ATP synthase oligomycin sensitivity conferral protein, mitochondrial precursor (EC 3.6.3.14) (OSCP)."
D13127	1679	Q06647	1680	AW449493	1681	CAA58219	1682	92.78	Rattus norvegicus mRNA for oligomycin sensitivity conferring protein, complete cds	D13127 RATOSCP Rattus norvegicus mRNA for oligomycin sensitivity conferring protein, complete cds	"ATP synthase oligomycin sensitivity conferral protein, mitochondrial precursor (EC 3.6.3.14) (OSCP)."
D13907	1683	Q03346	1684	AF054182	1685	O76439	1686	88	Mitochondrial processing peptidase beta	D13907 Rat mRNA for mitochondrial processing protease P52, partial sequence /cds=(0,1463) /gb=D13907 /gi=397698 /ug=Rn.841 /len=1570	"Mitochondrial processing peptidase beta subunit, mitochondrial precursor (EC 3.4.24.84) (Beta-MPP) (P-52)."

Table 2.

D13907	1687	Q03346	1688	AF054182	1689	O75439	1690	88	Mitochondrial processing peptidase beta	D13907 Rat mRNA for mitochondrial processing protease P52, partial sequence /cds=(0,1463) /gb=D13907 /gi=397698 /ug=Rn.841 /len=1570	Mitochondrial matrix.	"Mitochondrial processing peptidase beta subunit, mitochondrial precursor (EC 3.4.24.84) (Beta-MPP) (P-52)."
D13907	1691	Q03346	1692	AF054182	1693	O75439	1694	88	Mitochondrial processing peptidase beta	D13907 Rat mRNA for mitochondrial processing protease P52, partial sequence /cds=(0,1463) /gb=D13907 /gi=397698 /ug=Rn.841 /len=1570	Mitochondrial matrix.	"Mitochondrial processing peptidase beta subunit, mitochondrial precursor (EC 3.4.24.84) (Beta-MPP) (P-52)."
D13907	1695	Q03346	1696	AF054182	1697	O75439	1698	88	Mitochondrial processing peptidase beta	D13907 Rat mRNA for mitochondrial processing protease P52, partial sequence /cds=(0,1463) /gb=D13907 /gi=397698 /ug=Rn.841 /len=1570	Mitochondrial matrix.	"Mitochondrial processing peptidase beta subunit, mitochondrial precursor (EC 3.4.24.84) (Beta-MPP) (P-52)."
D13962	1699	Q07647	1700	M20681	1701	P11169	1702	83	Solute carrier family 2 A3 (neuron glucose transporter)	D13962 RATGLUT3 Rat mRNA for neuron glucose transporter	Integral membrane protein.	"Solute carrier family 2, facilitated glucose transporter, member 3(Glucose transporter type 3, brain)."
D13963	1703	P35349	1704	NIM_000843	1705	NP_000834	1706	89,29	Metabotropic glutamate receptor subtype	D13963 RATMGLUR6 Rat mRNA for metabotropic glutamate receptor subtype, complete cds	Integral membrane protein.	Metabotropic glutamate receptor 6 precursor (mGluR6).



D13978	1707	BAA03088	1708	BC008195	1709	IP04424	1710	90	argininosuccinate lyase	D13978 <i>Rattus</i> sp. mRNA for argininosuccinate lyase, complete cds	Cytoplasmic.	"Chloride conductance regulatory protein ICln (I(Cln)) (Chloridechannel I, nucleotide sensitive 1A)."
D13985	1711	Q04753	1712	AA832121	1713	NP_001284	1714	94.77	Chloride channel RCL1	D13985 RATRCL Rat mRNA for chloride channel RCL1, complete cds		
D13985	1715	Q04753	1716	AA832121	1717	NP_001284	1718	94.77	Chloride channel RCL1	D13985 RATRCL Rat mRNA for chloride channel RCL1, complete cds	Cytoplasmic.	"Chloride conductance regulatory protein ICln (I(Cln)) (Chloridechannel I, nucleotide sensitive 1A)."
D14014	1719	BAA03115	1720	X59798	1721	P24385	1722	82	Cyclin D1	D14014 RATCYCLD1 Rat mRNA for cyclin D1, complete cds		
D14014	1723	BAA03116	1724	X59798	1725	P24385	1726	82	Cyclin D1	D14014 RATCYCLD1 Rat mRNA for cyclin D1, complete cds		
D14014	1727	BAA03115	1728	X59798	1729	P24385	1730	82	Cyclin D1	D14014 RATCYCLD1 Rat mRNA for cyclin D1, complete cds		
D14014	1731	BAA03115	1732	X59798	1733	P24385	1734	82	Cyclin D1	D14014 RATCYCLD1 Rat mRNA for cyclin D1, complete cds		
D14015	1735	BAA03116	1736	M73812	1737	P24864	1738	76	Cyclin E	D14015 RATCYCLE Rat mRNA for cyclin E, complete cds		
D14015	1739	BAA03116	1740	M73812	1741	P24864	1742	76	Cyclin E	D14015 RATCYCLE Rat mRNA for cyclin E, complete cds		
D14418	1743	BAA021903	1744	M31786	1745	AAA35531	1746	99	A regulatory subunit of protein phosphatase 2A	D14418 <i>Rattus norvegicus</i> PP2A A $\alpha$ mRNA for A regulatory subunit of protein phosphatase 2A, partial cds		

Table 2.

D14419	1747	AAA419 10	1748	NM_0027 17	1749	Q00007	1750	95	Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha	D14419 Rattus norvegicus PP2A BRa mRNA for B regulatory subunit of protein phosphatase 2A, partial cds
D14421	1751	BAA033 13	1752	NM_0045 76	1753	NP_004 567	1754	100	b isotype of B regulatory subunit of protein phosphatase 2A	D14421 RATPP2ABRB Rat PP2A BRb mRNA for b isotype of B regulatory subunit of protein phosphatase 2A, partial sequence
D14421	1755	BAA033 13	1756	NM_0045 76	1757	NP_004 567	1758	100	b isotype of B regulatory subunit of protein phosphatase 2A	D14421 RATPP2ABRB Rat PP2A BRb mRNA for b isotype of B regulatory subunit of protein phosphatase 2A, partial sequence
D14588	1759	P06705	1760	M30773	1761	P06705	1762	100	Protein phosphatase 3, regulatory subunit B, alpha isoform (calcineurin B, type I)	D14588 RATRSCDPP Rat mRNA for calcineurin B subunit isoform 1 (Protein phosphatase 2B regulatory subun it 1) (Protein phosphatase 3 regulatory subunit B alpha isoform1).

Table 2.

D14591	1763	Q01986	1764	BI549938	1765	Q02750	1766	93.33	Mitogen activated protein kinase kinase 2	D14591 RATMEK1 Rat mRNA for MAP kinase kinase, complete cds	Dual specificity mitogen- activated protein kinase kinase 1(EC 2.7.1.-) (MAP kinase kinase 1) (MAPKK 1) (ERK activator kinase 1)(MAPK/ERK kinase 1) (MEK1).
D14688	1767	P18686	1768	XM_041877		XP_041677		91	myosin regulatory light chain	D14688 RATMLRC Rattus norvegicus mRNA for myosin regulatory light chain, complete cds	"Myosin regulatory light chain 2-B, smooth muscle isoform (MyosinRLC- B)." "
D14819	1768	BAA03557	1770	NM_016257	1771	NP_057341	1772	97	Rat mRNA for calcium- binding protein P23k beta, partial cds	D14819 RATCBPP23B Rat mRNA for calcium-binding protein P23k beta, partial cds	
D14839	1773	P36364	1774	NM_002010	1775	P31371	1776	99	Fibroblast growth factor 9	D14839 Rat mRNA for FGF-9, complete cds /cds=(177,803) /gb=D14839 /gi=391852 /ug=Rn.25174 /len=1084	Glia-activating factor precursor (GAP) (Fibroblast growth factor- 9)(FGF-9) (HBGF-9).

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Table 2.

D16302	1777	Q09325	1778	NM_002406	1779	P28572	1780	84	N-acetylglucosaminyltransferase I	D16302 Rat mRNA for N-acetylglucosaminyltransferase I, complete cds /cds=(157,1500) /gb=D16302 /gi=455387 /ug=Rn.2712 /len=2546	Type II membrane protein. Golgi.	"Alpha-1,3-mannosyl-glycoprotein beta-1,2-N-acetylglucosaminyltransferase (EC 2.4.1.101) (N-glycosyl-oligosaccharide-glycoprotein N-acetylglucosaminyltransferase I) (GNT-I) (GlcNAc-T I)."
D16308	1781	BAA03815	1782	NM_001759	1783	P30279	1784	92	cyclin D2	D16308 RATCLND2 Rat mRNA for cyclin D2, complete cds		
D16309	1785	BAA03816	1786	NM_001760	1787	P30281	1788	80	Cyclin D3	D16309 RATCLND3 Rat mRNA for cyclin D3, complete cds		
D16309	1789	BAA03816	1790	NM_001760	1791	P30281	1792	80	Cyclin D3	D16309 RATCLND3 Rat mRNA for cyclin D3, complete cds		
D16309	1793	BAA03816	1794	NM_001760	1795	P30281	1796	80	Cyclin D3	D16309 RATCLND3 Rat mRNA for cyclin D3, complete cds		
D16309	1797	BAA03816	1798	NM_001760	1799	P30281	1800	80	Cyclin D3	D16309 RATCLND3 Rat mRNA for cyclin D3, complete cds		
D16817	1801	P35400	1802	X94552	1803	Q14831	1804	91.34	Metabotropic glutamate receptor mGluR7	D16817 RATMGRM Rat mRNA for metabotropic glutamate receptor mGluR7	Integral membrane protein.	Metabotropic glutamate receptor 7 precursor (mGluR7).

Table 2.

D17310	1805	P23457	1808	NM_0143 42	1807	BAA895 42	1808	94.39	Steroid 3- alpha- dehydrogenase	D17310 RATS3AD Rat mRNA for steroid 3- alpha-dehydrogenase, complete cds	Cytoplasmic.	3-alpha- hydroxysteroid dehydrogenase (EC 1.1.1.50) (3- alpha- HSD)(Hydroxypro- staglandin dehydrogenase)
D17370	1809	P18757	1810	S52028	1811	P32929	1812	84.51	CTL target antigen	D17370 RATCGL Rat mRNA for cystathionine gamma-lyase, complete cds	Cytoplasmic.	Cystathionine gamma-lyase (EC 4.4.1.1) (Gamma- cystathionase)( Probasin-related antigen) (PRB- RA).
D17521	1813	BAA044 71	1814	NM_0018 29	1815	NP_001 820	1816	90	Protein kinase C-regulated chloride channel	D17521 RATCLC3 Rat mRNA for protein kinase C-regulated chloride channel, complete cds		
D17614	1817	P35216	1818	NM_0068 26	1819	P27348	1820	99	14-3-3 protein theta-subtype	D17614 Rat mRNA for 14-3-3 protein theta- subtype, complete cds /cds=(85,822) /gb=D17614 /gi=402508 /ug=Rn.2502 /len=2099	Cytoplasmic.	14-3-3 protein tau (14-3-3 protein theta).

Table 2.

D17711	1821	Q07244	1822	BF930538	1823	P54296	1824	96.75	Rattus norvegicus mRNA for dC-stretch binding protein (CSBP), complete cds	D17711cds RATCSBP Rat mRNA for dC-stretch binding protein (CSBP), complete cds	CYTOPLAS MIC AND NUCLEAR; NUCLEOPLAS SM.	Heterogeneous nuclear ribonucleoprotein K (hnRNP K) (DC-stretchbinding protein) (CSBP) (Transformation upregulated nuclear protein)(TUNP).
D17711	1825	Q07244	1826	BF930538	1827	P54296	1828	96.75	Rattus norvegicus mRNA for dC-stretch binding protein (CSBP), complete cds	D17711cds RATCSBP Rat mRNA for dC-stretch binding protein (CSBP), complete cds	CYTOPLAS MIC AND NUCLEAR; NUCLEOPLAS SM.	Heterogeneous nuclear ribonucleoprotein K (hnRNP K) (DC-stretchbinding protein) (CSBP) (Transformation upregulated nuclear protein)(TUNP).
D17711	1829	Q07244	1830	BF930538	1831	P54296	1832	96.75	dC-stretch binding protein (CSBP)	D17711cds RATCSBP Rat mRNA for dC-stretch binding protein (CSBP), complete cds	CYTOPLAS MIC AND NUCLEAR; NUCLEOPLAS SM.	Heterogeneous nuclear ribonucleoprotein K (hnRNP K) (DC-stretchbinding protein) (CSBP) (Transformation upregulated nuclear protein)(TUNP).

Table 2.

D17809	1833	Q10468	1834	M83651	1835	Q00973	1836	87.83	Beta-4N- acetylglactos aminyltransfer ase	NM_022860	D17809 Rat mRNA for beta-4N- acetylglactosaminyltransferase, complete cds /cds=(30,1631) /gb=D17809 /gi=497841 /ug=Rn.10119 /len=2186	Type II membrane protein. Golgi.	"Beta-1,4 N- acetylglactosa minyltransferase (EC 2.4.1.92) (N- acetylneuraminy l)- galactosylglucos ylceramide) (GM2/GD2 synthase)(GalN Ac-T)." "
D21132	1837	P53812	1838	NM_012389	1839	P48738	1840	98	phosphatidylin ositol transfer protein	AA998448	D21132 Rat mRNA for phosphatidylinositol transfer protein (beta isoform), complete cds /cds=(24,839) /gb=D21132 /gi=516831 /ug=Rn.2398 /len=2880	Cytoplasmic.	Phosphatidylin ositol transfer protein beta isoform (PtdIns transferprotein beta) (PtdInsTP) (PI-TP-beta).
D21869	1841	NP_113903	1842	BC007798	1843	P08237	1844	96	PKF-M (phosphofruct okinase-M)	NM_031715	D21869 RATPFKM04 Rat mRNA for PKF-M (phosphofructokinase-M), partial cds	Nuclear.	Retinoblastoma- associated protein (PP105) (RB) (Fragment).
D25233	1845	P33568	1846	L41870	1847	P06400	1848	89.34	Rattus norvegicus mRNA for retinoblastom a protein, partial sequence		D25233cds RATRP Rat mRNA for retinoblastoma protein, partial sequence	Nuclear.	Retinoblastoma- associated protein (PP105) (RB) (Fragment).
D25233	1849	P33568	1850	L41870	1851	P06400	1852	89.34	retinoblastom a 1		D25233cds RATRP Rat mRNA for retinoblastoma protein, partial sequence	Nuclear.	Retinoblastoma- associated protein (PP105) (RB) (Fragment).

Table 2.

D25233	1853	P33568	1854	L41870	1855	P06400	1856	89.34	Rattus norvegicus mRNA for retinoblastoma protein, partial sequence	D25233UTR#1 RATRP Rat mRNA for retinoblastoma protein, partial sequence	Nuclear.	Retinoblastoma-associated protein (PP105) (RB) (Fragment).
D25233	1857	P33568	1856	L41870	1859	P06400	1860	89.34	retinoblastoma 1	D25233UTR#1 RATRP Rat mRNA for retinoblastoma protein, partial sequence	Nuclear.	Retinoblastoma-associated protein (PP105) (RB) (Fragment).
D25233	1861	P33568	1862	L41870	1863	P06400	1864	89.34	Rattus norvegicus mRNA for retinoblastoma protein, partial sequence	D25233UTR#1 RATRP Rat mRNA for retinoblastoma protein, partial sequence	Nuclear.	Retinoblastoma-associated protein (PP105) (RB) (Fragment).
D25233	1865	P33568	1866	L41870	1867	P06400	1868	89.34	retinoblastoma 1	D25233UTR#1 RATRP Rat mRNA for retinoblastoma protein, partial sequence	Nuclear.	Retinoblastoma-associated protein (PP105) (RB) (Fragment).
D25543	1869	BAA05026	1870	X75304	1871	CAA53052	1872	64	Novel golgi-associated protein GCP360	D25543 RATGCP60 Rat mRNA for novel golgi-associated protein GCP360, complete cds		
D25543	1873	BAA05026	1874	X75304	1875	CAA53052	1876	64	Novel golgi-associated protein GCP360	D25543 RATGCP60 Rat mRNA for novel golgi-associated protein GCP360, complete cds		
D26073	1877	BAA05068	1878	XM_008138		XP_008138		92	phosphoribosyl pyrophosphate synthetase-associated protein (39 kDa)	D26073 RATPSAP Rat mRNA for phosphoribosyl pyrophosphate synthetase-associated protein (39kDa)		



Table 2.

D26073	1879	BAA050 68	1880	XM_008138	XP_008138	92	phosphoribosylpyrophosphate synthetase associated protein (39 kDa)	AA891871	D26073 RATPSAP Rat mRNA for phosphoribosylpyrophosphate synthetase associated protein (39kDa)
D26154	1881	BAA051 41	1882	XM_032627	XP_032627	82	RB109 (brain specific protein)		D26154cds RATRB109 Rat mRNA for RB109 (brain specific protein), complete cds
D26154	1883	BAA051 41	1884	XM_032627	XP_032627	82	RB109 (brain specific protein)		D26154cds RATRB109 Rat mRNA for RB109 (brain specific protein), complete cds
D26154	1885	BAA051 41	1888	XM_032627	XP_032627	82	RB109 (brain specific protein)		D26154UTR#1 RATRB109 Rat mRNA for RB109 (brain specific protein), complete cds
D26154	1887	BAA051 41	1888	XM_032627	XP_032627	82	RB109 (brain specific protein)		D26154UTR#1 RATRB109 Rat mRNA for RB109 (brain specific protein), complete cds
D26154	1889	BAA051 41	1890	XM_032627	XP_032627	82	RB109 (brain specific protein)		D26154UTR#1 RATRB109 Rat mRNA for RB109 (brain specific protein), complete cds
D26154	1891	BAA051 41	1892	XM_032627	XP_032627	82	RB109 (brain specific protein)		D26154UTR#1 RATRB109 Rat mRNA for RB109 (brain specific protein), complete cds
D26178	1893	BAA051 68	1894	NM_014920	NP_055735	79	serine/threonine protein kinase		D26178 Rat heart mRNA serine/threonine protein kinase, complete cds /cds=(298,2185) /gb=D26178.fg/len=1127035 /ug=Rn.3750 /len=2350

Table 2.

D26180	1897	Q63433	1898	XM_031273	1899	XP_031273	1900	78	novel protein kinase PKN	D26180 Rat mRNA for novel protein kinase PKN, complete cds /cds=(125,2965) /gb=D26180 /gi=485401 /ug=Rn.10071 /len=3035	Cytoplasmic.	Protein kinase C-like 1 (EC 2.7.1.-) (Protein-kinase C-related kinase1) (Protein kinase C-like PKN) (Serine-threonine protein kinase N)(Protease-activated kinase 1) (PAK-1).
D26500	1901	BA00508	1902	NM_001372	1903	Q8NYC9	1904	80	Dynein-like protein 9A, partial cds	D26500 RATDLP9A Rat mRNA for dynein-like protein 9A, partial cds		
D28512	1905	P40748	1906	AL136594	1907	Q9BQG1	1908	87.74	Synaptotagmin III	D28512 RATSIII Rat mRNA for Synaptotagmin III, complete cds	Integral membrane protein. Synaptic vesicles.	Synaptotagmin III (SyIII).
D28557	1909	Q62764	1910	BE122757	1911	P20618	1912	96.92	RYB-a	D28557 Rat mRNA for RYB-a, complete cds /cds=(50,925) /gb=D28557 /gi=505132 /ug=Rn.3306 /len=1500	Nuclear.	DNA-binding protein A (Cold shock domain protein A) (Muscle Y-box protein YB2) (Y-box binding protein-A) (RYB-A).
D29683	1913	P42893	1914	Z35307	1915	P42892	1916	89.92	endothelin-converting enzyme	D29683 Rat mRNA for endothelin-converting enzyme, complete cds /cds=(96,2360) /gb=D29683 /gi=629084 /ug=Rn.7000 /len=4489	Type II membrane protein.	Endothelin-converting enzyme 1 (EC 3.4.24.71) (ECE-1).

Table 2.

D29766	1917	Q63767	1918	AJ242987	1919	P56945	1920	91	V-crk-associated tyrosine kinase substrate	D29766cds#1 RATP130CAS Rattus norvegicus mRNA for Crk-associated substrate, p130, complete cds	FOCAL ADHESIONS AND STRESS FIBERS. UNPHOSPHORYLATED FORM LOCALIZES IN THE CYTOPLASM AND CAN MOVE TO THE MEMBRANE UPON TYROSINE PHOSPHORYLATION.	CRK-associated substrate (p130CAS) (Breast cancer anti-estrogenresistance 1 protein).
D29766	1921	Q63767	1922	AJ242987	1923	P56945	1924	91	V-crk-associated tyrosine kinase substrate	D29766Poly_ASite#1 RATP130CAS Rattus norvegicus mRNA for Crk-associated substrate, p130, complete cds	FOCAL ADHESIONS AND STRESS FIBERS. UNPHOSPHORYLATED FORM LOCALIZES IN THE CYTOPLASM AND CAN MOVE TO THE MEMBRANE UPON TYROSINE PHOSPHORYLATION.	CRK-associated substrate (p130CAS) (Breast cancer anti-estrogenresistance 1 protein).

Table 2.

D29960	1925	P97541	1926	NM_001885	1927	P02511	1928	46	alphaB crystallin-related protein	AI103838	D29960 Rat mRNA for alphaB crystallin-related protein, complete cds /cds=(5,493) /gb=D29960 /gi=1753175 /ug=Rn.3201 /len=1310	Heat-shock 20 kDa like-protein P20.
D30041	1929	P47197	1930	AK054771	1931	P31751	1932	92.46	RAC protein kinase beta		D30041 Rat mRNA for RAC protein kinase beta, complete cds /cds=(281,1728) /gb=D30041 /gi=485404 /ug=Rn.4293 /len=1984	"RAC-beta serine/threonine protein kinase (EC 2.7.1.-) (RAC-PK-beta)(Protein kinase Akt-2) (Protein kinase B, beta) (PKB beta)."
D30647	1933	P45953	1934	AF006012	1935	O14841	1936	93.4	Acyl-CoA dehydrogenase, Very long chain		D30647 Rat mRNA for very-long-chain Acyl-CoA dehydrogenase, complete cds /cds=(21,1888) /gb=D30647 /gi=533356 /ug=Rn.10279 /len=2102	Mitochondrial inner membrane.
D30649	1937	BAA06333	1938	AF005632	1939	AAC51813	1940	86.75	Phosphodiesterase I		D30649mRNA RATPDIB Rat mRNA for phosphodiesterase I, complete cds	
D30649	1941	BAA06333	1942	AF005632	1943	AAC51813	1944	86.75	Phosphodiesterase I		D30649mRNA RATPDIB Rat mRNA for phosphodiesterase I, complete cds	
D30734	1945	BAA06398	1946	D78155	1947	Q15283	1948	85	Ras GTPase-activating protein		D30734 RATGAP1M Rat mRNA for Ras GTPase-activating protein, complete cds	
D30739	1949	BAA06401	1950	NM_003406	1951	P29312	1952	98	mitochondrial import stimulation factor (MSF) L subunit		D30739 RAT1433PA Rat 14-3-3 protein mRNA for mitochondrial import stimulation factor (MSF) L subunit, complete cds	
D30804	1963	BAA06463	1964	NM_002792	1965	O14818	1966	95	Proteasome subunit RC6-1		D30804 RATPSRC6i Rat mRNA for proteasome subunit RC6-1, complete cds	
D30804	1967	BAA06463	1968	NM_002792	1969	O14818	1960	95	Proteasome subunit RC6-1		D30804 RATPSRC6i Rat mRNA for proteasome subunit RC6-1, complete cds	

Table 2.

D30804	1961	BAA064 63	1962	NM_0027 92	1963	O14818	1964	95	Proteasome subunit RC8-1	D30804 RATPSRC8I Rat mRNA for proteasome subunit RC8-1, complete cds			
D30804	1965	BAA064 63	1966	NM_0027 92	1967	O14818	1968	95	Proteasome subunit RC8-1	D30804 RATPSRC8I Rat mRNA for proteasome subunit RC8-1, complete cds			
D31873	1969	P53669	1970	NM_0167 35	1971	P53667	1972	88.55	LIM-domain containing, protein kinase	D31873 Rat mRNA for LIMK-1, complete cds /cds=(208,2151) /gb=D31873 /g =1684611 /ug=Rn.11250 /len=3258	Cytoplasmic	LIM domain kinase 1 (EC 2.7.1.37) (LIMK- 1).	
D31873	1973	P53669	1974	NM_0167 35	1975	P53667	1976	88.55	LIM-domain containing, protein kinase	D31873 Rat mRNA for LIMK-1, complete cds /cds=(208,2151) /gb=D31873 /g =1684611 /ug=Rn.11250 /len=3258	Cytoplasmic	LIM domain kinase 1 (EC 2.7.1.37) (LIMK- 1).	
D31873	1977	P53669	1978	NM_0167 35	1979	P53667	1980	88.55	LIM-domain containing, protein kinase	D31873 Rat mRNA for LIMK-1, complete cds /cds=(208,2151) /gb=D31873 /g =1684611 /ug=Rn.11250 /len=3258	Cytoplasmic	LIM domain kinase 1 (EC 2.7.1.37) (LIMK- 1).	
D31873	1981	P53669	1982	NM_0167 35	1983	P53667	1984	88.55	LIM-domain containing, protein kinase	D31873 Rat mRNA for LIMK-1, complete cds /cds=(208,2151) /gb=D31873 /g =1684611 /ug=Rn.11250 /len=3258	Cytoplasmic	LIM domain kinase 1 (EC 2.7.1.37) (LIMK- 1).	
D31873	1985	P53669	1986	NM_0167 35	1987	P53667	1988	88.55	LIM-domain containing, protein kinase	D31873 Rat mRNA for LIMK-1, complete cds /cds=(208,2151) /gb=D31873 /g =1684611 /ug=Rn.11250 /len=3258	Cytoplasmic	LIM domain kinase 1 (EC 2.7.1.37) (LIMK- 1).	
D31873	1989	P53669	1990	NM_0167 35	1991	P53667	1992	88.55	LIM-domain containing, protein kinase	D31873 Rat mRNA for LIMK-1, complete cds /cds=(208,2151) /gb=D31873 /g =1684611 /ug=Rn.11250 /len=3258	Cytoplasmic	LIM domain kinase 1 (EC 2.7.1.37) (LIMK- 1).	
D31874	1993	P53670	1994	BC013051	1995	P53671	1996	91.03	LIM motif- containing protein kinase 2	D31874 Rat mRNA for LIMK-2a, complete cds /cds=(62,1978) /gb=D31874 /g =1684612 /ug=Rn.11013 /len=3455	Cytoplasmic	LIM domain kinase 2 (EC 2.7.1.-) (LIMK- 2).	
D32249	1997	BAA069 79	1998	AB007898	1999	XP_003 693	2000	93.33	Neurodegener- ation associated protein 1	D32249 RATNDAP1 Rattus rattus mRNA for neurodegeneration associated protein 1, complete cds			

E13644

Table 2.

D32249	2001	BAA069 79	2002	AB007898	2003	XP_003 693	2004	93.33	Neurodegener- ation associated protein 1	E13644	D32249 RATNDAP1 Rattus rattus mRNA for neurodegeneration associated protein 1, complete cds		
D32249	2005	BAA069 79	2006	AB007898	2007	XP_003 693	2008	93.33	Neurodegener- ation associated protein 1	E13644	D32249 RATNDAP1 Rattus rattus mRNA for neurodegeneration associated protein 1, complete cds		
D37880	2009	P55148	2010	U02566	2011	Q08418	2012	88.67	Bruton agammaglobu- linemia tyrosine kinase		D37880 Rat mRNA for Sky, complete cds /cds=(25,2667) /gb=D37880 /gi=1498195 /ug=Rn.8883 /len=3726	Type I membrane protein.	Tyrosine-protein kinase receptor TYRO3 precursor (EC 2.7.1.112)(Tyros- ine-protein kinase SKY).
D38222	2013	g10548 35	2014	L18983	2015	Q16849	2016	86	Rattus norvegicus tyrosine phosphatase- like protein IA- 2a mRNA, partial cds		D38222 RATPDPTLP Rat mRNA for protein tyrosine phosphatase-like protein, complete cds		
D38455	2017	P50343	2018	XM_01810 4	2019	XP_018 104	2020	75	Mast cell tryptase precursor		D38455 Rat mRNA for mast cell tryptase precursor, complete cds /cds=(25,849) /gb=D38455 /gi=566655 /ug=Rn.10183 /len=1097		Mast cell protease 8 precursor (EC 3.4.21.59) (RMCP-6) (Tryptase).
D38492	2021	Q63198	2022	XM_03871 9		XP_038 719		95	neural adhesion molecule F3		D38492 Rat mRNA for neural adhesion molecule F3, complete cds /cds=(134,3199) /gb=D38492 /gi=1498193 /ug=Rn.21397 /len=3214	Attached to the membrane by a GPI- anchor.	Contactin precursor (Neural adhesion molecule F3).
D38628	2023	P70478	2024	XM_04393 3		XP_043 933		75	APC protein (adenomatous polyps coli)	L19306	D38628 Rat mRNA for APC protein, complete cds /cds=(53,8581) /gb=D38628 /gi=928855 /ug=Rn.11351 /len=8582		Adenomatous polyps coli protein (APC protein).
D42116	2025	BAA225 48	2026	X05309	2027	P17827	2028	38	512 antigen	D42115	D42116 Rattus norvegicus mRNA for 512 antigen, clone 17, partial cds		

Table 2.

D42116	2029	BAA225 48	2030	X05309	2031	P17927	2032	36	512 antigen	D42115	D42116 Rattus norvegicus mRNA for 512 antigen, clone 17, partial cds		
D42137	2033	BAA077 08	2034	NM_0011 54	2035	P08758	2036	91	Annexin		D42137 exon RATAV11 Rat annexin V gene, exon13		
D44481	2037	BAA079 24	2038	BC008508	2039	P46108	2040	92	CRK-II		D44481 RATCRKII Rat mRNA for CRK-II, complete cds		
D45249	2041	BAA082 06	2042	NM_0062 63	2043	Q06323	2044	85	Rat mRNA for proteasome activator rPA28 subunit alpha, complete cds		D45249 RATPRPA28B Rat mRNA for proteasome activator rPA28 subunit alpha, complete cds		
D45249	2045	BAA082 06	2046	NM_0062 63	2047	Q06323	2048	85	Rat mRNA for proteasome activator rPA28 subunit alpha, complete cds		D45249 RATPRPA28B Rat mRNA for proteasome activator rPA28 subunit alpha, complete cds		
D45252	2049	P48450	2050	NM_0023 40	2051	P48449	2052	82	oxidosqualene lanosterol-cyclase	E12275	D45252 RAT23OLC Rat mRNA for 2,3-oxidosqualene:lanosterol cyclase, complete cds		<sup>11</sup> Lanosterol synthase (EC 5.4.99.7) (Oxidosqualene-lanosterol cyclase)(2,3-epoxysqualene-lanosterol cyclase) (OSC). <sup>12</sup>

Table 2.

D45252	2053	P48450	2054	NM_002340	2055	P48449	2056	82	2,3-oxidosqualene:lanosterol cyclase		D45252 RAT23OLC Rat mRNA for 2,3-oxidosqualene:lanosterol cyclase, complete cds		<sup>14</sup> Lanosterol synthase (EC 5.4.99.7) (Oxidosqualene:lanosterol cyclase)/(2,3-epoxysqualene:lanosterol cyclase) (OSC)."
D45254	2057	P20694	2058	NM_003418	2059	P20694	2060	91	Cellular Nucleic Acid Binding Protein		D45254 RATCNABP Rat mRNA for cellular nucleic acid binding protein (CNBP), complete cds	"CYTOPLAS MIC, ALSO PRESENT IN ENDOPLAS MIC RETICULUM."	Cellular nucleic acid binding protein (CNBP).
D45254	2081	P20694	2082	NM_003418	2083	P20694	2084	91	Cellular Nucleic Acid Binding Protein		D45254 RATCNABP Rat mRNA for cellular nucleic acid binding protein (CNBP), complete cds	"CYTOPLAS MIC, ALSO PRESENT IN ENDOPLAS MIC RETICULUM."	Cellular nucleic acid binding protein (CNBP).
D45255	2065	BAA08213	2066	XM_046272		XP_046272		90	GD3 synthase, complete cds		D45255 Rattus sp. mRNA for GD3 synthase, complete cds		
D45920	2087	BAA08351	2088	D42108	2089	NP_006217	2070	89.8	Rat mRNA for 130kDa-Ins(1,4,5)P3 binding protein, complete cds	A1072447	D45920 Rat mRNA for 130kDa-Ins(1,4,5)P3 binding protein, complete cds /cds=(466,3756) /gb=D45920 /gl=1183843 /ug=Rn.10684 /len=5233		
D45920	2071	BAA08351	2072	D42108	2073	NP_006217	2074	89.8	130kDa-Ins(1,4,5)P3 binding protein		D45920 Rat mRNA for 130kDa-Ins(1,4,5)P3 binding protein, complete cds /cds=(466,3756) /gb=D45920 /gl=1183843 /ug=Rn.10684 /len=5233		



Table 2.

D45920	2075	BAA083 51	2076	D42108	2077	NP_006 217	2078	89.8	130kDa- Ins(1,4,5)P3 binding protein (phospholipase C)	E12159	D45920 Rat mRNA for 130kDa-Ins(1,4,5)P3 binding protein, complete cds /cds=(466,3756) /gb=D45920 /gi=1183843 /ug=Rn.10684 /len=5233		
D45920	2078	BAA083 51	2080	D42108	2081	NP_006 217	2082	89.8	130kDa- Ins(1,4,5)P3 binding protein		D45920 Rat mRNA for 130kDa-Ins(1,4,5)P3 binding protein, complete cds /cds=(466,3756) /gb=D45920 /gi=1183843 /ug=Rn.10684 /len=5233		
D49363	2083	BAA083 59	2084	AY028764	2085	AAK019 39	2086	87	perchloric acid soluble protein		D49363 RATPSP1 Rat mRNA for perchloric acid soluble protein, complete cds		
D49395	2087	BAA083 88	2088	NM_0008 69	2089	P46098	2090	82	Serotonin 5- HT3 receptor		D49395 RAT5HT3RB Rat mRNA for serotonin 5-HT3 receptor, complete cds		
D49446	2091	BAA084 35	2092	U31659	2093	P49848	2094	76	TFIID subunit p80 (general transcription factor)	U70270	D49446 RATTFIIDSP Rat mRNA for TFIID subunit p80, complete cds		
D49653	2095	P50596	2096	U18915	2097	P41159	2098	85.22	Obesity (murine homolog, leptin)		D49653 RATOBESSE Rat mRNA for obese(leptin), complete cds	Secreted .	Leptin precursor (Obesity factor).
D49708	2099	Q15815	2100	BC000451	2101	Q15815	2102	92.3	RNA binding protein (transformer-2- like)	AA851749	D49708 Rattus norvegicus mRNA for RNA binding protein (transformer-2-like), complete cds /cds=(135,1001) /gb=D49708 /gi=1255682 /ug=Rn.8538 /len=1978	Nuclear.	Arginine/serine- rich splicing factor 10 (Transformer-2- beta) (HTRA2- beta) (Transformer 2 protein homolog) (Silica- induced protein 41)(RA301).

Table 2.

D49708	2103	Q15815	2104	BC000451	2105	Q15815	2106	92.3	Rattus norvegicus mRNA for RNA binding protein (transformer-2-like), complete cds	A1231164	D49708 Rattus norvegicus mRNA for RNA binding protein (transformer-2-like), complete cds /cds=(135,1001) /gb=D49708 /lg=1255682 /ug=Rn.8538 /len=1978	Nuclear.	Arginine/serine-rich factor 10 (Transformer-2-beta) (HTRA2-beta) (Transformer 2 protein homolog) (Silica-induced protein 41)(RA301).
D49785	2107	Q63796	2108	U07358	2109	Q12852	2110	92.52	Protein kinase (MUK)		D49785 RATPK Rattus norvegicus mRNA for protein kinase (MUK), complete cds	Cytoplasmic and membrane-associated.	Mitogen-activated protein kinase kinase kinase 12 (EC 2.7.1.37)(MAPK-upstream kinase) (MUK).
D49847	2111	P29354	2112	BC000631	2113	P29354	2114	93.38	Rat mRNA for Ash-s, complete cds		D49847 Rat mRNA for Ash-s, complete cds /cds=(144,323) /gb=D49847 /gi=814980 /ug=Rn.3360 /len=1739		Growth factor receptor-bound protein 2 (GRB2 adapter protein)(SH2/SH3 adapter GRB2) (ASH protein).
D50093	2115	BAA08790	2116	AY008282	2117	P04156	2118	59	Prion protein		D50093 Rat DNA for prion protein /cds=(10,774) /gb=D50093 /gi=1772326 /ug=Rn.3936 /len=1987		

Table 2.

D50436	2119	P24483	2120	M18003	2121	P10109	2122	83.89	adrenodoxin	D50436 Rat mRNA for adrenodoxin, complete cds /cds=(84,830) /gb=D50436 /gi=801871 /ug=Rn.6946 /len=838	Mitochondrial matrix.	"Adrenodoxin, precursor (Adrenal ferredoxin)." "
D63761	2123	P56522	2124	J03828	2125	P22570	2126	87.04	Adrenodoxin reductase	D63761 Rattus norvegicus mRNA for adrenodoxin reductase, complete cds /cds=(22,1508) /gb=D63761 /gi=2865453 /ug=Rn.10860 /len=1786	Mitochondrial matrix.	"NADPH:adrenodoxin oxidoreductase, mitochondrial precursor (EC 1.18.1.2) (Adrenodoxin reductase) (AR) (Ferredoxin-NADP(+)-reductase)." "
D63834	2127	P63987	2128	L31801	2129	P53985	2130	88.03	Solute carrier 16 (monocarboxylic acid transporter), member 1	D63834 Rat MCT1 mRNA for monocarboxylate transporter, complete cds /cds=(205,1689) /gb=D63834 /gi=1198781 /ug=Rn.8085 /len=3285	Integral membrane protein. Plasma membrane.	Monocarboxylate transporter 1 (MCT 1).
D63834	2131	P53987	2132	L31801	2133	P53985	2134	88.03	Solute carrier 16 (monocarboxylic acid transporter), member 1	D63834 Rat MCT1 mRNA for monocarboxylate transporter, complete cds /cds=(205,1689) /gb=D63834 /gi=1198781 /ug=Rn.8085 /len=3285	Integral membrane protein. Plasma membrane.	Monocarboxylate transporter 1 (MCT 1).
D63886	2135	BAA22223	2136	NM_005941	2137	P51512	2138	90	MT3-MMP-del	D63886 Rattus sp. mRNA for MT3-MMP-del, complete cds		
D64045	2139	Q63787	2140	XM_043865	2141	XP_043865	2142	87	phosphatidylinositol 3-kinase p85 alpha subunit	D64045 RATPI3KA Rat mRNA for phosphatidylinositol 3-kinase p85 alpha subunit, complete cds		Phosphatidylinositol 3-kinase regulatory alpha subunit (PI3-kinase p85-alpha subunit) (PtdIns-3-kinase p85-alpha) (PI3K).

Table 2.

D64046	2143	Q63788	2144	X80907	2145	O00459	2146	88.28	phosphatidylinositol 3-kinase p85 beta subunit
D64048	2147	BAA19530	2148	U77917	2149	NP_002840	2150	88.72	tyrosine phosphatase CBPTP
D78018	2151	P09414	2152	XM_046926		XP_048826		75	Nuclear Factor 1A
D78303	2153	BAA23885	2154	BF798521	2155	Q15032	2156	98.32	YT521 mRNA for RNA splicing-related protein
D78308	2157	P18418	2158	AA654394	2159	NP_004334	2160	93.14	calreticulin
D64048	Rat mRNA for phosphatidylinositol 3-kinase p85 beta subunit, complete cds /cds=(0,2168) /gb=D64046 /gi=1246389 /ug=Rn.22497 /len=2169								Phosphatidylinositol 3-kinase regulatory beta subunit (PI3-kinase p85-beta subunit) (PtdIne-3-kinase p85-beta).
D64050	Rat mRNA for tyrosine phosphatase CBPTP, complete cds /cds=(165,1772) /gb=D64050 /gi=1217597 /ug=Rn.6277 /len=2881								
D78018	Rat mRNA for NF1-A2, complete cds /cds=(150,1613) /gb=D78018 /gi=1041033 /ug=Rn.10550 /len=2129								Nuclear. A-type (Nuclear factor 1A) (NF1-A) (NF1-A) (NF1-A) (CCAAT-box binding transcription factor) (CTF) (TGGCA-binding protein).
D78303	Rattus norvegicus YT521 mRNA for RNA splicing-related protein, complete cds /cds=(316,2454) /gb=D78303 /gi=2898610 /ug=Rn.2155 /len=3208								
D78308	Rat mRNA for calreticulin, complete cds /cds=(15,1265) /gb=D78308 /gi=1089798 /ug=Rn.974 /len=1816								Endoplasmic reticulum lumen. Calreticulin precursor (CRP55) (Calregulin) (HACBP) (ERp60) (CALBP)(Calciulin-binding protein 3) (CABP3).

Table 2.

D78308	2161	P18418	2162	AA654394	2163	NP_004334	2164	93.14	calreticulin	D78308 Rat mRNA for calreticulin, complete cds /cds=(15,1265) /gb=D78308 /gi=1089798 /ug=Rn.974 /len=1816	Endoplasmic reticulum lumen.	Calreticulin precursor (CRP55) (Calregulin) (HACBP) (ERp60) (CALBP)(Calciu m-binding protein 3) (CABP3).
D78588	2165	O08560	2166	U51477	2167	Q13574	2168	89.13	Diacylglycerol kinase	D78588 Rat mRNA for diacylglycerol kinase, complete cds /cds=(180,2868) /gb=D78588 /gi=1906781 /ug=Rn.11208 /len=3580	Nuclear.	"Diacylglycerol kinase, zeta (EC 2.7.1.107) (Diglyceride kinase) (DGK-zeta) (DAG kinase zeta) (DGK-IV) (104 kDa diacylglycerol kinase)."
D78588	2169	O08560	2170	U51477	2171	Q13574	2172	89.13	Diacylglycerol kinase	D78588 Rat mRNA for diacylglycerol kinase, complete cds /cds=(180,2868) /gb=D78588 /gi=1906781 /ug=Rn.11208 /len=3580	Nuclear.	"Diacylglycerol kinase, zeta (EC 2.7.1.107) (Diglyceride kinase) (DGK-zeta) (DAG kinase zeta) (DGK-IV) (104 kDa diacylglycerol kinase)."
D78613	2173	BAA11433	2174	XM_005781		XP_005781		80	protein tyrosine phosphatase epsilon M	D78613 RATPTPEB Rat mRNA for protein tyrosine phosphatase epsilon M, partial cds		
D82074	2175	BAA11535	2176	XM_002573	2177	XP_002573	2178	85	BHF-1	D82074 RATBHF1MA Rattus sp. mRNA for BHF-1, complete cds		

Table 2.

D82928	2178	P70500	2180	AF014807	2181	O14735	2182	95	Rat mRNA for phosphatidylinositol synthase, complete cds	D82928 Rat mRNA for phosphatidylinositol synthase, complete cds /cds=(142,783) /gb=D82928 /gi=1620878 /ug=Rn.10598 /len=1621	INTEGRAL MEMBRANE PROTEIN. LOCATED ON THE CYTOPLASMIC ASPECT OF THE ENDOPLASMIC RETICULUM AND THE GOLGI; ALSO DETECTED IN PLASMA MEMBRANE.	CDP-diacylglycerol-inositol 3-phosphatidylinositol sferase (EC 2.7.8.11)(Phosphatidylinositol synthase) (PtdIns synthase) (PI synthase).
D82928	2183	P70500	2184	AF014807	2185	O14735	2186	95	Rat mRNA for phosphatidylinositol synthase, complete cds	D82928 Rat mRNA for phosphatidylinositol synthase, complete cds /cds=(142,783) /gb=D82928 /gi=1620878 /ug=Rn.10598 /len=1621	INTEGRAL MEMBRANE PROTEIN. LOCATED ON THE CYTOPLASMIC ASPECT OF THE ENDOPLASMIC RETICULUM AND THE GOLGI; ALSO DETECTED IN PLASMA MEMBRANE.	CDP-diacylglycerol-inositol 3-phosphatidylinositol sferase (EC 2.7.8.11)(Phosphatidylinositol synthase) (PtdIns synthase) (PI synthase).
D83538	2187	BAA18614	2188	AK024034	2189	P42356	2190	83,91	Phosphatidylinositol 4-kinase	D83538 Rat mRNA for 230kDa phosphatidylinositol 4-kinase, complete cds /cds=(391,6516) /gb=D83538 /gi=1339965 /ug=Rn.11016 /len=6857	INTEGRAL MEMBRANE PROTEIN. LOCATED ON THE CYTOPLASMIC ASPECT OF THE ENDOPLASMIC RETICULUM AND THE GOLGI; ALSO DETECTED IN PLASMA MEMBRANE.	CDP-diacylglycerol-inositol 3-phosphatidylinositol sferase (EC 2.7.8.11)(Phosphatidylinositol synthase) (PtdIns synthase) (PI synthase).



Table 2.

D85189	2222	O35547	2223	NM_022977	2224	O60488	2225	91.08	Rattus norvegicus mRNA for Acyl-CoA synthetase, complete cds	D85189 Rattus norvegicus mRNA for Acyl-CoA synthetase, complete cds /cds=(185,2197) /gb=D85189 /gi=2392022 /ug=Rn.2368 /len=4862	Long-chain-fatty-acid-CoA ligase 4 (EC 6.2.1.3) (Long-chain acyl-CoA synthetase 4) (LACS 4).
D85189	2228	O35547	2227	NM_022977	2228	O60488	2229	91.08	Acyl-CoA synthetase	D85189 Rattus norvegicus mRNA for Acyl-CoA synthetase, complete cds /cds=(185,2197) /gb=D85189 /gi=2392022 /ug=Rn.2368 /len=4862	Long-chain-fatty-acid-CoA ligase 4 (EC 6.2.1.3) (Long-chain acyl-CoA synthetase 4) (LACS 4).
D86297	2230	Q63147	2231	NM_001695	2232	P21283	2233	95	erythroid-specific delta-aminolevulinic acid synthase	D86297 Rat mRNA for rat erythroid-specific delta-aminolevulinic acid synthase (rat ALAS-E), complete cds /cds=(15,1778) /gb=D86297 /gi=1407567 /ug=Rn.7069 /len=1899	Mitochondrial "5-aminolevulinic acid synthase, erythroid-specific, mitochondrial precursor (EC 2.3.1.37) (Delta-aminolevulinic acid synthase) (Delta-ALAS-E)." (ALAS-E).



Table 2.

D86373	2234	O70536	2235	XM_031118	XP_031118	85	acyl-coenzyme A:cholesterol acyltransferase	D86373 Rattus norvegicus mRNA for acyl-coenzyme A:cholesterol acyltransferase, complete cds /cds=(91,1728) /gb=D86373 /gi=3036904 /ug=Rn.13213 /len=1750	Integral membrane protein. Endoplasmic reticulum.	Sterol O-acyltransferase 1 (EC 2.3.1.26) (Cholesterol acyltransferase 1) (ACAT-1).
D86557	2236	BAA19880	2237	NM_020439	NP_065172	98	Protein Kinase	D86557 Rattus norvegicus mRNA for Protein Kinase, partial cds		
D86557	2240	BAA19880	2241	NM_020439	NP_065172	98	Protein Kinase	D86557 Rattus norvegicus mRNA for Protein Kinase, partial cds		
D86842	2244	P97534	2245	AF322070	Q16645	98.47	FK506 binding protein 1b (12.6 kDa)	D86842 Rattus norvegicus mRNA for FK506-binding protein 12.6, complete cds		12.6 kDa FK506-binding protein (FKBP-12.6) (Peptidyl-prolyl cis-trans isomerase) (EC 5.2.1.8) (PPIase) (Rotamase) (Immunophilin FKBP12.6).
D86711	2248	No Rat Protein Found.	2249	AL117662	XP_052908	82.16	Homo sapiens DKFZP586K0524 protein	D86711 D86711 Rattus norvegicus cDNA /gb=D86711 /gi=1549215 /ug=Rn.4240 /len=984		

Table 2.

D87240	2250	O35096	2251	AJ285747	2252	Q16875	2253	94.86	Rattus norvegicus RB2K1 mRNA for fructose-6-phosphate 2-kinase/fructose-2,6-bisphosphatase 3 (GPF-2-K/Fru-2,6-P2ASE brain-type isozyme) (RB2K) [includes: 6-phosphofructo-2-kinase (EC 2.7.1.105); Fructose-2,6-bisphosphatase (EC 3.1.3.46)] <sup>1</sup>
D87240	2250	O35096	2251	AJ285747	2252	Q16875	2253	94.86	Rattus norvegicus RB2K1 mRNA for fructose-6-phosphate 2-kinase/fructose-2,6-bisphosphatase 3 (GPF-2-K/Fru-2,6-P2ASE brain-type isozyme) (RB2K) [includes: 6-phosphofructo-2-kinase (EC 2.7.1.105); Fructose-2,6-bisphosphatase (EC 3.1.3.46)] <sup>1</sup>
D87991	2254	BAA135 27	2255	NM_0058 27	2256	NP_005 818	2257	84	UDP-galactose transporter related isozyme 1, complete cds
D87991	2258	BAA135 27	2259	NM_0058 27	2260	NP_005 818	2261	84	UDP-galactose transporter related isozyme 1, complete cds
D87991	2262	BAA135 27	2263	NM_0058 27	2264	NP_005 818	2265	84	UDP-galactose transporter related isozyme 1, complete cds
D87991	2262	BAA135 27	2263	NM_0058 27	2264	NP_005 818	2265	84	UDP-galactose transporter related isozyme 1, complete cds

D87240 Rattus norvegicus RB2K1 mRNA for fructose-6-phosphate 2-kinase/fructose-2,6-bisphosphatase 3 (GPF-2-K/Fru-2,6-P2ASE brain-type isozyme) (RB2K) [includes: 6-phosphofructo-2-kinase (EC 2.7.1.105); Fructose-2,6-bisphosphatase (EC 3.1.3.46)]<sup>1</sup>

D87991 House rat; black rat; ship rat mRNA for UDP-galactose transporter related isozyme 1, complete cds

D87991 House rat; black rat; ship rat mRNA for UDP-galactose transporter related isozyme 1, complete cds

D87991 House rat; black rat; ship rat mRNA for UDP-galactose transporter related isozyme 1, complete cds

Table 2.

D87991	2266	BAA135 27	2267	NM_0058 27	2268	NP_005 818	2269	84	UDP- galactose transporter related isozyme 1, complete cds	D87991 House rat; black rat; ship rat mRNA for UDP-galactose transporter related isozyme 1, complete cds
D88250	2270	JC6554	2271	J04080	2272	Q8UCV3	2273	76	Rattus norvegicus mRNA for serine protease, complete cds	D88250 Rattus norvegicus mRNA for serine protease, complete cds /cds=(246,2330) /gb=D88250 /gi=3080541 /ug=Rn.4037 /len=2908
D88250	2274	BAA257 97	2275	XM_00684 1	XP_008 641			76	ESTs, Weakly similar to JC6554 probable serine protease [R.norvegicus]	D88250 Rattus norvegicus mRNA for serine protease, complete cds /cds=(246,2330) /gb=D88250 /gi=3080541 /ug=Rn.4037 /len=2908
D88534	2276	BAA136 37	2277	NM_0009 36	P16233		2279	78	pancreatic lipase	D88534 Rattus norvegicus mRNA for pancreatic lipase, partial cds
D88672	2280	P70498	2281	AF038441	O14939		2283	88.04	phospholipase D	D88672 Rat mRNA for phospholipase D, complete cds /cds=(336,3137) /gb=D88672 /gi=2077942 /ug=Rn.9798 /len=4562
D88890	2284	BAA196 26	2285	XM_00129 6	XP_001 296			95	Acyl-CoA hydrolase	D88890 Rat mRNA for acyl-CoA hydrolase, complete cds /cds=(207,1223) /gb=D88890 /gi=1944427 /ug=Rn.6024 /len=1523
										Membrane-associated.  Phospholipase D2 (EC 3.1.4.4) (PLD 2) (Choline phosphatase 2)(Phosphatidyl- choline- hydrolyzing phospholipase D2) (PLD1C) (rPLD2).

Table 2.

D89089	2286	P47727	2287	J04056	2288	P16152	2289	90.34	Inducible carbonyl reductase	D89089 Rattus norvegicus mRNA for Inducible carbonyl reductase, complete cds	Cytoplasmic.	Carbonyl reductase [NADPH] 1 (EC 1.1.1.184) (NADPH-dependent carbonyl reductase 1).
D89340	2290	O65086	2281	AK021449	2292	Q8NY33	2283	89.98	Rattus norvegicus mRNA for dipeptidyl peptidase III, complete cds	D89340 Rattus norvegicus mRNA for dipeptidyl peptidase, complete cds /cds=(14,2497) /gb=D89340 /gi=2832805 /ug=Rn.10902 /len=2815	Cytoplasmic.	Dipeptidyl-peptidase II (EC 3.4.14.4) (DPP II) (Dipeptidylaminopeptidase III) (Dipeptidyl arylamidase III).
D89655	2294	JC5533	2285	Z22555	2298	A48528	2297	78	CD38 antigen (collagen type I receptor, thrombospondin receptor)-like 1 (scavenger receptor class B type 1)	D89655 Rat mRNA for scavenger receptor class B, complete cds /cds=(120,1649) /gb=D89655 /gi=1752798 /ug=Rn.3142 /len=2392		
D89655	2298	JC5533	2289	Z22555	2300	A48528	2301	78	CD38 antigen (collagen type I receptor, thrombospondin receptor)-like 1 (scavenger receptor class B type 1)	D89655 Rat mRNA for scavenger receptor class B, complete cds /cds=(120,1649) /gb=D89655 /gi=1752798 /ug=Rn.3142 /len=2392		

Table 2.

D89730	2302	O35568	2303	NM_004105	2304	Q12805	2305	91	EGF-CONTAINING FIBULIN-LIKE EXTRACELLULAR MATRIX PROTEIN 1 PRECURSOR (FIBULIN-3) (T16 PROTEIN)	D89730 Rattus rattus T16 mRNA, complete cds
D89730	2306	O35568	2307	NM_004105	2308	Q12805	2309	91	EGF-CONTAINING FIBULIN-LIKE EXTRACELLULAR MATRIX PROTEIN 1 PRECURSOR (FIBULIN-3) (T16 PROTEIN)	D89730 Rattus rattus T16 mRNA, complete cds
D89730	2310	O35568	2311	NM_004105	2312	Q12805	2313	91	EGF-CONTAINING FIBULIN-LIKE EXTRACELLULAR MATRIX PROTEIN 1 PRECURSOR (FIBULIN-3) (T16 PROTEIN)	D89730 Rattus rattus T16 mRNA, complete cds

Table 2.

D88730	2314	O35568	2315	NM_004105	2316	Q12805	2317	91	EGF-CONTAINING FIBULIN-LIKE EXTRACELLULAR MATRIX PROTEIN 1 PRECURSOR (FIBULIN-3) (FIBL-3) (T16 PROTEIN)			D88730 Rattus rattus T16 mRNA, complete cds				
D88983	2318	Q83784	2319	D88674	2320	O14977	2321	95.34	antizyme inhibitor			D88983 Rattus norvegicus mRNA for antizyme inhibitor, complete cds /cds=(730,2076) /gb=D88983 /gi=2841953 /ug=Rn.6280 /len=4269			Ornithine decarboxylase antizyme inhibitor.	
D90038	2322	P16970	2323	BC009712	2324	P28288	2325	93.07	peroxisomal membrane protein(PMP70)			D90038 Rat liver 70-kDa peroxisomal membrane protein(PMP70) mRNA /cds=(35,2014) /gb=D90038 /gi=220861 /ug=Rn.7024 /len=3303		Integral membrane protein. Peroxisomal.	"ATP-binding cassette, sub-family D, member 3 (70 kDa peroxisomal membrane protein) (PMP70)." "	
D90109	2326	P18163	2327	NM_001995	2328	P41215	2329	82	long-chain acyl-CoA synthetase	AA893242		D90109 Rat mRNA for long-chain acyl-CoA synthetase (EC 6.2.1.3) /cds=(13,2112) /gb=D90109 /gi=220717 /ug=Rn.6215 /len=3857		"MICROSOMAL, OUTER MITOCHONDRIAL MEMBRANE AND PEROXISOMAL MEMBRANE."	"Long-chain-fatty-acid-CoA ligase, liver isozyme (EC 6.2.1.3)(Long-chain acyl-CoA synthetase 2) (LACS 2)." "	
D90258	2330	BAA14302	2331	NM_002788	2332	P25788	2333	98	proteasome subunit RC8			D90258 RATPSC8 Rat mRNA for proteasome subunit RC8				

Table 2.

D90401	2334	Q01205	2335	A1184508	2336	P55198	2337	95.76	Dihydrolipoamide succinyltransferase	D90401 RATAKGE2 Rat mRNA for dihydrolipoamide succinyltransferase	Mitochondrial	"Dihydrolipoamide succinyltransferase component of 2-oxoglutarate dehydrogenase complex, mitochondrial precursor (EC 2.3.1.61) (E2)(E2K)." .
D90401	2338	Q01205	2339	A1184508	2340	P55198	2341	95.76	Dihydrolipoamide succinyltransferase	D90401 RATAKGE2 Rat mRNA for dihydrolipoamide succinyltransferase	Mitochondrial	"Dihydrolipoamide succinyltransferase component of 2-oxoglutarate dehydrogenase complex, mitochondrial precursor (EC 2.3.1.61) (E2)(E2K)." .
D90404	2342	P80067	2343	AA296068	2344	S66504		96.07	Cathepsin C (dipeptidyl peptidase I)	D90404 RATCATC Rat mRNA for cathepsin C	Lysosomal	Dipeptidyl-peptidase I precursor (EC 3.4.14.1) (DPP-I) (DPP1)(Cathepsin C) (Cathepsin J) (Dipeptidyl transferase).

Table 2.

D90404	2345	P80067	2346	AA296068	2347	S66504	98.07	Cathepsin C (dipeptidyl peptidase I)	D90404 RATCATC Rat mRNA for cathepsin C	Lysosomal.	Dipeptidyl- peptidase I precursor (EC 3.4.14.1) (DPP- I) (DPP1)(Cathepsin C) (Cathepsin J) (Dipeptidyl transferase).
E00717	2348	CAA25 163	2349	NM_0004 99	2350	P04798	79	P-450 from Rat Liver	E00717UTR#1 cDNA encoding chytochrome P-450 from Rat Liver		
E00898	2352	No Rat Protein Found.		X74818	2353	CAA528 17	88	Cancer specific cDNA	E00898cnds Cancer specific cDNA		
E01415	2355	NP_112 416	2356	NM_0008 48	2357	P28161	84	Rattus norvegicus glutathione S- transferase, mu type 3	E01415cnds cDNA encoding rat glutathione S transferase		
E01534	2359	NP_058 847	2360	NM_0010 18	2361	P11174	69	ribosomal protein S15	E01534cnds DNA sequence expressed especially in rat insulinoma		
E03358	2363	NP_058 975	2364	NM_0027 87	2365	P25787	99	proteasome	E03358cnds cDNA encoding rat polyfunctional protease component C3		
E03358	2367	NP_058 976	2368	NM_0027 87	2369	P25787	99	proteasome	E03358cnds cDNA encoding rat polyfunctional protease component C3		
E03428	2371	CAA42 210	2372	XM_03112 1	2373	XP_031 121	75	peptidylglycin- alpha- amidating monooxygenase	E03428cnds cDNA sequence encoding rat peptidylglycin-alpha-amidating monooxygenase		
E06822	2375	BAA033 17	2376	NM_0037 39	2377	P42330	70	20-alpha- hydroxysteroid dehydrogenase	E06822cnds cDNA encoding 20 alpha-HSD(20 alpha-hydroxysteroid dehydrogenase)		



Table 2.

E12625	2378	BAA233 29	2380	NM_0067 45	2381	Q15800	2382	cDNA encoding a rat novel protein which is expressed with nerve injury: ( this is RANP-1 protein)	D50559	E12625cds cDNA encoding a rat novel protein which is expressed with nerve injury
E12829	2383	BAA134 32	2384	NM_0184 48	2385	NP_060 918	2386	TIP120	D87671	E12829cds cDNA encoding novel rat protein TIP120 which is formed of complex with TBP (TATA binding protein)
J01435	2387	No human homolo g found.		No Human Protein Found.				Mitochondrial genome - cytochrome oxidase		J01435cds#1 RATMTCYOS Rattus norvegicus mitochondrial cytochrome oxidase subunits I,II, III genes, ATPase subunit 6 gene, Trp-,Ala-,Asn-,Cys-, Tyr-, Ser(ucn)-, Asp-, Lys-, Gly-, Arg-, His-, Ser(agy)-, Leu(cun)-tRNAs
J01435	2388	No human homolo g found.		No Human Protein Found.				Mitochondrial genome - cytochrome oxidase		J01435cds#4 RATMTCYOS Rattus norvegicus mitochondrial cytochrome oxidase subunits I,II, III genes, ATPase subunit 6 gene, Trp-,Ala-,Asn-,Cys-, Tyr-, Ser(ucn)-, Asp-, Lys-, Gly-, Arg-, His-, Ser(agy)-, Leu(cun)-tRNAs
J01436	2389	AAA999 07	2390	No human homolog found.		No Human Protein Found.		Mitochondrial cytochrome B gene		J01436cds RATMTCYBT Rattus norvegicus mitochondrial cytochrome B gene; Pro-, Thr-, Glu-tRNA genes; and URF6
J02596	2391	AAA407 46	2392	NM_0000 40	2393	P02656	2394	apolipoprotein C-III		J02596cds RATAPOA02 Rat apolipoprotein C-III gene, complete cds

Table 2.

J02612	2395	P08430	2396	AV683870	2397	P22310	2398	88.71	UDP-glucuronosyltransferase 1 family, member 1	J02612 mRNA RATUDPGT Rat UDP-glucuronosyltransferase mRNA, complete cds	Microsomal.	<sup>14</sup> UDP-glucuronosyltransferase 1-6 precursor, microsomal (EC 2.4.1.17)(UDPGT) (UGT1-6) (UGT1-6) (UGT1A6) (A1) (P-nitrophenol specific)."
J02669	2399	P11711	2400	U22028	2401	Q16686	2402	71	Cytochrome P450 IIA1 (hepatic steroid hydroxylase IIA1) gene	J02669 Rat cytochrome P-450a (3-methylcholanthrene-inducible; with high testosterone 7-alpha activity), mRNA, complete cds /cds=(19,1497) /gb=J02669 /gi=203768 /ug=Rn.10804 /len=1687	Membrane-bound. Endoplasmic reticulum.	Cytochrome P450 2A1 (EC 1.14.14.1) (CYP1A1) (Steroid hormones 7-alpha-hydroxylase) (Testosterone 7-alpha-hydroxylase) (P450-UT-F).
J02722	2403	AAA41346	2404	NIM_002133	2405	P09601	2406	79	Heme oxygenase	J02722 cds RATHOXA Rat heme oxygenase gene, complete cds		

Table 2.

J02749	2407	P21775	2408	X12866	2409	P09110	2410	88	Acetyl-CoA acyltransferase, 3-oxo acyl- CoA thiolase A, peroxisomal	J02749 Rat peroxisomal 3-ketoacyl-CoA thiolase mRNA, complete cds /cds=(25,1299) /gb=J02749 /gi=205088 /ug=Rn.8913 /len=1580	Peroxisomal.	"3-ketoacyl-CoA thiolase A, peroxisomal precursor (EC 2.3.1.16) (Beta- ketothiolase A) (Acetyl-CoA acyltransferase A) (Peroxisomal 3-oxoacyl-CoA thiolase A)."
J02749	2411	P21775	2412	X12866	2413	P09110	2414	88	Acetyl-CoA acyltransferase, 3-oxo acyl- CoA thiolase A, peroxisomal	J02749 Rat peroxisomal 3-ketoacyl-CoA thiolase mRNA, complete cds /cds=(25,1299) /gb=J02749 /gi=205088 /ug=Rn.8913 /len=1580	Peroxisomal.	"3-ketoacyl-CoA thiolase A, peroxisomal precursor (EC 2.3.1.16) (Beta- ketothiolase A) (Acetyl-CoA acyltransferase A) (Peroxisomal 3-oxoacyl-CoA thiolase A)."
J02773	2415	P07483	2416	NM_004102	2417	P05413	2418	85.68	Heart fatty acid binding protein	J02773 Rat low molecular weight fatty acid binding protein mRNA, complete cds /cds=(36,437) /gb=J02773 /gi=204077 /ug=Rn.4147 /len=668	Cytoplasmic.	"Fatty acid- binding protein, heart (H- FABP)."



Table 2.

J02827	2431	P11980	2432	M22221	2433	P12694	2434	88.54	branched chain alpha-ketoacid dehydrogenase	J02827 Rat branched chain alpha-ketoacid dehydrogenase E1-alpha subunit mRNA, 3 end /cde=(0,1325) /gb=J02827 /gi=203120 /ug=Rn.3489 /len=1639	Mitochondrial matrix.	oxoisovalerate dehydrogenase alpha subunit, mitochondrial precursor (EC 1.2.4.4) (Branched-chain alpha-keto acid dehydrogenase component) alpha chain (E1) (BCKDH E1-alpha) (Fragment)." .
J02844	2435	P11466	2436	AF168793	2437	Q8UKG9	2438	84	Camitline octanoyltransferase	J02844 RATCOTA Rat camitline octanoyltransferase mRNA, complete cds	Peroxisomal .	Peroxisomal camitline octanoyltransferase (EC 2.3.1.-) (COT).
J02862	2439	P08699	2440	M57710	2441	P17931	2442	89.91	IgE binding protein	J02862 Rat IgE binding protein mRNA, complete cds /cde=(40,828) /gb=J02862 /gi=203173 /ug=Rn.764 /len=948	Peroxisomal .	Galactin-3 (Galactose-specific lectin 3) (MAC-2 antigen) (IgE-binding protein) (35 kDa lectin) (Carbohydrate binding protein 35) (CBP 35) (Laminin-binding protein) (Lectin L-28).

Table 2.

J03179	2443	P16443	2444	D28468	2445	Q10586	2446	88.35	D-binding protein	J03179 Rat D-binding protein mRNA, complete cds /cds=(387,1344) /gb=J03179 /gi=203942 /ug=Rn.11274 /len=1622	Nuclear.	D-site-binding protein (Albumin D box-binding protein) (D site albuminpromoter binding protein 1).
J03179	2447	P16443	2448	D28468	2449	Q10586	2450	86.35	D-binding protein	J03179 Rat D-binding protein mRNA, complete cds /cds=(387,1344) /gb=J03179 /gi=203942 /ug=Rn.11274 /len=1622	Nuclear.	D-site-binding protein (Albumin D box-binding protein) (D site albuminpromoter binding protein 1).
J03190	2451	P13195	2452	X56351	2453	P13196	2454	87.17	Rat 5-aminolevulinatase synthase mRNA	J03190 Rat 5-aminolevulinatase synthase mRNA, complete cds /cds=(17,1845) /gb=J03190 /gi=203087 /ug=Rn.6274 /len=2052	Mitochondrial matrix.	5-aminolevulinic acid synthase, nonspecific, mitochondrial precursor(EC 2.3.1.37) (Delta-aminolevulinatase synthase) (Delta-ALA synthetase)(ALAS-H)."

Table 2.

J03190	2455	P13195	2456	X56351	2457	P13196	2458	87.17	5-aminolevulinat e synthase	J03190 Rat 5-aminolevulinate synthase mRNA, complete cds /cds=(17,1945) /gb=J03190 /gi=203087 /ug=Rn.6274 /len=2052	Mitochondrial matrix.	"5-aminolevulinic acid synthase, nonspecific, mitochondrial precursor(EC 2.3.1.37) (Delta- aminolevulinate synthase) (Delta- ALA synthetase)(AL AS-H)."
J03190	2459	P13195	2480	X56351	2481	P13196	2462	87.17	Rat 5-aminolevulinat e synthase mRNA	J03190 Rat 5-aminolevulinate synthase mRNA, complete cds /cds=(17,1945) /gb=J03190 /gi=203087 /ug=Rn.6274 /len=2052	Mitochondrial matrix.	"5-aminolevulinic acid synthase, nonspecific, mitochondrial precursor(EC 2.3.1.37) (Delta- aminolevulinate synthase) (Delta- ALA synthetase)(AL AS-H)."
J03190	2463	P13195	2464	X56351	2465	P13196	2466	87.17	5-aminolevulinat e synthase	J03190 Rat 5-aminolevulinate synthase mRNA, complete cds /cds=(17,1945) /gb=J03190 /gi=203087 /ug=Rn.6274 /len=2052	Mitochondrial matrix.	"5-aminolevulinic acid synthase, nonspecific, mitochondrial precursor(EC 2.3.1.37) (Delta- aminolevulinate synthase) (Delta- ALA synthetase)(AL AS-H)."

Table 2.

J03481	2487	P11348	2468	BC000576	2469	P09417	2470	88.33	dihydropteridine reductase	J03481 mRNA RATDTR Rat dihydropteridine reductase mRNA, complete cds	Dihydropteridine reductase (EC 1.6.99.7) (HDHPR) (Quinoiddihydropteridine reductase).
J03481	2471	P11348	2472	BC000576	2473	P09417	2474	88.33	dihydropteridine reductase	J03481 mRNA RATDTR Rat dihydropteridine reductase mRNA, complete cds	Dihydropteridine reductase (EC 1.6.99.7) (HDHPR) (Quinoiddihydropteridine reductase).
J03481	2475	P11348	2476	BC000576	2477	P09417	2478	88.33	dihydropteridine reductase	J03481 mRNA RATDTR Rat dihydropteridine reductase mRNA, complete cds	Dihydropteridine reductase (EC 1.6.99.7) (HDHPR) (Quinoiddihydropteridine reductase).
J03481	2479	P11348	2480	BC000576	2481	P09417	2482	88.33	dihydropteridine reductase	J03481 mRNA RATDTR Rat dihydropteridine reductase mRNA, complete cds	Dihydropteridine reductase (EC 1.6.99.7) (HDHPR) (Quinoiddihydropteridine reductase).
J03572	2483	P08289	2484	XM_001626	2485	XP_001826	2486	91	Alkaline phosphatase	J03572 Rat alkaline phosphatase mRNA, complete cds /cds=(152,1726) /gb=J03572 /gi=208122 /ug=Rn.6877 /len=2415	"Alkaline phosphatase, tissue-nonspecific isozyme precursor(EC 3.1.3.1) (AP-TNAP) (Liver/bone/kidney isozyme) (TNSALP)." Attached to the membrane by a GPI-anchor.



Table 2.

J03588	2487	P10868	2488	Z49878	2489	Q14353	2490	84.06	guanine methyltransferase mRNA	U75393	J03588 Rat guanine methyltransferase mRNA, complete cds /cds=(51,761) /gb=J03588 /gi=204435 /ug=Rn.1983 /len=924	Mitochondrial	Guanidinoacetate N-methyltransferase (EC 2.1.1.2).
J03621	2491	P13086	2492	BM723664	2493	AAD17940	2494	99.68	Succinyl-CoA synthetase alpha subunit	U75393	J03621 Rat mitochondrial succinyl-CoA synthetase alpha subunit (cytoplasmic precursor) mRNA, complete cds /cds=(490,1491) /gb=J03621 /gi=204355 /ug=Rn.3766 /len=1684	Mitochondrial	"Succinyl-CoA ligase (GDP-forming) alpha chain, mitochondrial precursor (EC 6.2.1.4) (Succinyl-CoA synthetase, alpha chain) (SCS-alpha)."
J03621	2495	P13086	2496	BM723664	2497	AAD17940	2498	99.68	Succinyl-CoA synthetase alpha subunit	U75393	J03621 Rat mitochondrial succinyl-CoA synthetase alpha subunit (cytoplasmic precursor) mRNA, complete cds /cds=(490,1491) /gb=J03621 /gi=204355 /ug=Rn.3766 /len=1684	Mitochondrial	"Succinyl-CoA ligase (GDP-forming) alpha chain, mitochondrial precursor (EC 6.2.1.4) (Succinyl-CoA synthetase, alpha chain) (SCS-alpha)."
J03754	2499	P11508	2500	L00620	2501	Q01814	2502	91.14	plasma membrane Ca2+ ATPase	AA955388	J03754CompleteSeq Rat plasma membrane Ca2+ ATPase-isoform 2 mRNA, complete cds /cds=UNKNOWN /gb=J03754 /gi=203048 /ug=Rn.11280 /len=7025	Integral membrane protein.	Plasma membrane calcium-transporting ATPase 2 (EC 3.6.3.8) (PMCA2)(Plasma membrane calcium pump isoform 2) (Plasma membrane calciumATPase isoform 2).

Table 2.

J03754	2503	P11506	2504	L00620	2505	Q01814	2506	91.14	ATPase isoform 2, Na <sup>+</sup> K <sup>+</sup> transporting, beta polypeptide 2	J03754 CompleteSeq Rat plasma membrane Ca2+ ATPase-isoform 2 mRNA, complete cds /cds=UNKNOWN /gb=J03754 /gi=203048 /ug=Rn.11280 /len=7025	Integral membrane protein.	Plasma membrane calcium- transporting ATPase 2 (EC 3.6.3.8) (PMCA2)(Plasm a membrane calcium pump isoform 2) (Plasma membrane calciumATPase isoform 2).
J03773	2507	P19827	2508	J03280	2509	P19086	2510	92.16	Guanine nucleotide binding protein, alpha	J03773 Rat guanine nucleotide-binding regulatory protein alpha subunit mRNA, complete cds /cds=(14,1081) /gb=J03773 /gi=204546 /ug=Rn.10943 /len=1529	Membrane- bound.	"Guanine nucleotide- binding protein G(z), alpha subunit (G(x) alphachain) (Gz- alpha)." alpha).



Table 2.

J03969	2519	P13084	2520	AL135691	2521	NP_002511	2522	98.32	nucleolar protein B23	J03969 Rat nucleolar protein B23 mRNA, complete cds /cds=(46,924) /gb=J03969 /gi=203081 /ug=Rn.3539 /len=1232	"NUCLEAR. GENERALLY NUCLEOLAR, BUT IS TRANSLOCATED TO THE NUCLEOLAR PERIPHERY IN CASE OF SERUM STARVATION OR TREATMENT WITH ANTICANCER DRUGS."	Nucleophosmin (NPM) (Nucleolar phosphoprotein B23) (Nurmatrin)(Nucleolar protein NO38).
J04035	2523	Q98372	2524	M17282	2525	EAHU		65	Tropoelastin	J04035 Rat tropoelastin mRNA, 3' end /cds=(0,254) /gb=J04035 /gi=207442 /ug=Rn.11300 /len=1211	EXTRACELLULAR MATRIX OF ELASTIC FIBERS.	Elastin precursor (Tropoelastin) (Fragment).
J04063	2526	P11730	2527	BC021269	2528	XP_044348		94.41	Rat calmodulin-dependent protein kinase II gamma subunit mRNA, complete cds	J04063 Rat calmodulin-dependent protein kinase II gamma subunit mRNA, complete cds /cds=(35,1818) /gb=J04063 /gi=206151 /ug=Rn.10961 /len=1728		Calcium/calmodulin-dependent protein kinase type II gamma chain (EC2.7.1.123) (CaM-kinase II gamma chain) (CaM kinase II gamma subunit)(CaMK-II gamma subunit).

Table 2.

J04187	2529	P15149	2530	U22028	2531	Q16696	2532	67	Cytochrome P450 IIA2	J04187 Rat cytochrome P450 IIA2 protein (CYP2A2) mRNA, complete cds /cds=(9,1487) /gb=J04187 /gi=204901 /ug=Rn.9867 /len=2259	Membrane-bound. Endoplasmic reticulum.	Cytochrome P450 2A2 (EC 1.14.14.1) (CYP1A2) (Testosterone 15-alpha-hydroxylase) (P450-UT-4).
J04486	2533	P12843	2534	M35410	2535	P18065	2536	89	Insulin-like growth factor binding protein 2	J04486 Rat insulin growth factor-binding protein mRNA, complete cds /cds=(263,1177) /gb=J04486 /gi=203176 /ug=Rn.6813 /len=1482	Secreted.	Insulin-like growth factor binding protein 2 precursor (IGFBP-2)(IBP-2) (IGF-binding protein 2) (BRL-BP).
J04486	2537	P12843	2538	M35410	2539	P18065	2540	89	Insulin-like growth factor binding protein 2	J04486 Rat insulin growth factor-binding protein mRNA, complete cds /cds=(263,1177) /gb=J04486 /gi=203176 /ug=Rn.6813 /len=1482	Secreted.	Insulin-like growth factor binding protein 2 precursor (IGFBP-2)(IBP-2) (IGF-binding protein 2) (BRL-BP).
J04503	2541	P20650	2542	S87759	2543	P35813	2544	93.69	protein phosphatase 2c.	J04503 Rat protein phosphatase 2c mRNA, complete cds /cds=(87,1235) /gb=J04503 /gi=206312 /ug=Rn.4563 /len=1602		Protein phosphatase 2C alpha isoform (EC 3.1.3.16) (PP2C-alpha) (IA)(Protein phosphatase 1A).

Table 2.

J04503	2545	P20850	2546	S87759	2547	P35813	2548	93.69	protein phosphatase 2c.	J04503 Rat protein phosphatase 2c mRNA, complete cds /cds=(87,1236) /gb=J04503 /gi=206312 /ug=Rn.4553 /len=1602	Protein phosphatase 2C alpha isoform (EC 3.1.3.16) (PP2C-alpha) (IA)(Protein phosphatase 1A).
J04791	2549	NP_036 747	2550	NM_0025 39	2551	P11926	2552	91	Ornithine decarboxylase (ODC)	J04791 RATODCAB Rattus norvegicus ornithine decarboxylase (ODC) mRNA, complete cds	
J04792	2553	AAA682 86	2554	NM_0025 39	2555	P11928	2556	82	Ornithine decarboxylase	J04792 Rattus norvegicus ornithine decarboxylase (ODC) gene, complete cds /cds=(0,1385) /gb=J04792 /gi=205805 /ug=Rn.874 /len=2102	
J04793	2557	AAA408 00	2558	NM_0003 42	2559	P02730	2560	75	Rat Band 3 mRNA encoding kidney band 3 Cl <sup>-</sup> /HW-3- anion exchanger	J04793 Rat Band 3 mRNA encoding kidney band 3 Cl <sup>-</sup> /HW-3- anion exchanger /cds=(0,2548) /gb=J04793 /gi=203092 /ug=Rn.20529 /len=2547	
J04807	2561	NP_062 003	2562	NM_0002 07	2563	P01308	2564	84	Rattus norvegicus Insulin 2	J04807mRNA RATINSIIA Rat Insulin II gene mRNA, 3' end	

Table 2.

J04943	2565	P13084	2566	AL135891	2567	AAH12566	2568	98.32	nucleolar protein B23.2	J04943 Rat nucleolar protein B23.2 mRNA, complete cds, clone JH2 /cds=(75,848) /gb=J04943 /gi=203077 /ug=Rn.3539 /len=1164	"NUCLEAR. GENERALLY NUCLEOLAR, BUT IS TRANSLOCATED TO THE NUCLEOLUS IN CASE OF SERUM STARVATION OR TREATMENT WITH ANTICANCER DRUGS."	Nucleophosmin (NPM) (Nucleolar phosphoprotein B23) (Numatrin)(Nucleolar protein NO38).
J05022	2569	P20717	2570	BC009701	2571	Q9Y2J8	2572	88.67	Peptidyl arginine deiminase, type II	J05022 Rat peptidylarginine deiminase mRNA /cds=(60,2057) /gb=J05022 /gi=205959 /ug=Rn.2842 /len=4507	Protein-arginine deiminase type II (EC 3.5.3.15) (Peptidylarginin edeiminase II).	
J05029	2573	P15650	2574	M74086	2575	P28330	2576	85.01	Acyl Coenzyme A dehydrogenase, long chain	J05029 RATACOADA Rat long chain acyl-CoA dehydrogenase (LCAD) mRNA, complete cds	Mitochondrial "Acyl-CoA dehydrogenase, long-chain specific, mitochondrial precursor(EC 1.3.99.13) (LCAD), "	
J05031	2577	P12007	2578	AK022777	2579	P28440	2580	90.77	Rat Isovaleryl-CoA dehydrogenase (IVD)	J05031 Rat isovaleryl-CoA dehydrogenase (IVD) mRNA, complete cds /cds=(15,1289) /gb=J05031 /gi=204981 /ug=Rn.147 /len=2104	Mitochondrial "Isovaleryl-CoA dehydrogenase, mitochondrial precursor (EC 1.3.99.10)(IVD), "	

TABLE 2.

J05031	2581	P12007	2582	AK022777	2583	P26440	2584	90.77	Rat Isovaleryl-CoA dehydrogenase (IVD)	J05031 Rat Isovaleryl-CoA dehydrogenase (IVD) mRNA, complete cds /cds=(15,1289) /gb=J05031 /gi=204981 /ug=Rn.147 /len=2104	Mitochondrial matrix.	[ <sup>14</sup> C] isovaleryl-CoA dehydrogenase, mitochondrial precursor (EC 1.3.99.10)(IVD).
J05035	2585	P24008	2586	NM_001047	2587	P18405	2588	63	Steroid 5 alpha-reductase	J05035 RAT55ALPHA Rat steroid 5 alpha-reductase mRNA, complete cds	Integral membrane protein. Microsomal intracellular membrane.	3-oxo-5-alpha-dehydrogenase 1 (EC 1.3.99.5) (Steroid5-alpha-reductase 1) (SR type 1).
J05035	2589	P24008	2590	NM_001047	2591	P18405	2592	63	Steroid 5 alpha-reductase	J05035 RAT55ALPHA Rat steroid 5 alpha-reductase mRNA, complete cds	Integral membrane protein. Microsomal intracellular membrane.	3-oxo-5-alpha-dehydrogenase 1 (EC 1.3.99.5) (Steroid5-alpha-reductase 1) (SR type 1).
J05035	2593	P24008	2594	NM_001047	2595	P18405	2596	63	Steroid 5 alpha-reductase	J05035 RAT55ALPHA Rat steroid 5 alpha-reductase mRNA, complete cds	Integral membrane protein. Microsomal intracellular membrane.	3-oxo-5-alpha-dehydrogenase 1 (EC 1.3.99.5) (Steroid5-alpha-reductase 1) (SR type 1).



Table 2.

J05035	2597	P24008	2598	NM_001047	2599	P18405	2600	63	Steroid 5 alpha-reductase	J05035 RAT5ALPHA Rat steroid 5 alpha-reductase mRNA, complete cds	Integral membrane protein. Microsomal Intracellular membrane.	3-oxo-5-alpha-steroid 4-dehydrogenase 1 (EC 1.3.99.5) (Steroid5-alpha-reductase 1) (SR type 1).
J05087	2601	AA68667	2602	NM_001682	2603	P20020	2604	74	Calmodulin-sensitive plasma membrane Ca2+-transporting ATPase (PMCA3)	J05087 Rat calmodulin-sensitive plasma membrane Ca2+-transporting ATPase (PMCA3) mRNA, complete cds /cds=UNKNOWN /gb=J05087 /gi=203050 /ug=Rn.11063 /len=5084		
J05122	2605	P16257	2606	XM_040167		XP_040167		79	Benzodiazepine receptor (peripheral)	J05122 Rat peripheral-type benzodiazepine receptor (PKBS) mRNA, complete cds /cds=(34,543) /gb=J05122 /gi=206161 /ug=Rn.1620 /len=781	MITOCHONDRIAL; INTEGRAL MEMBRANE PROTEIN.	Peripheral-type benzodiazepine receptor (PBR) (PKBS) (Mitochondrial benzodiazepine receptor).
J05166	2607	P23347	2608	U76667	2609	AAF19583	2610	78	Anion exchanger (B3RP2)	J05166 Rat band 3 Cl-/HCO3- exchanger (B3RP2) mRNA, complete cds /cds=(200,3904) /gb=J05166 /gi=203090 /ug=Rn.9860 /len=4057	Integral membrane protein.	Anion exchange protein 2 (Non-erythroid band 3-like protein) (B3RP).
J05166	2611	P23347	2612	XM_004678		XP_004678		78	Cl-/HCO3- exchanger (B3RP2)	J05166 Rat band 3 Cl-/HCO3- exchanger (B3RP2) mRNA, complete cds /cds=(200,3904) /gb=J05166 /gi=203090 /ug=Rn.9860 /len=4057	Integral membrane protein.	Anion exchange protein 2 (Non-erythroid band 3-like protein) (B3RP).

Table 2.

J05166	2613	P23347	2614	U76667	2615	AAF195 83	2616	78	Anion exchanger (B3RP2)	J05166 Rat band 3 Cl-HCO <sub>3</sub> - exchanger (B3RP2) mRNA, complete cds /cds=(200,3904) /gb=J05166 /gi=203090 /ug=Rn.9860 /len=4057	Integral membrane protein.	Anion exchange protein 2 (Non- erythroid band 3- like protein) (B3RP).
J05166	2617	P23347	2618	XM_00467 8		XP_004 678		78	Cl-HCO <sub>3</sub> - exchanger (B3RP2)	J05166 Rat band 3 Cl-HCO <sub>3</sub> - exchanger (B3RP2) mRNA, complete cds /cds=(200,3904) /gb=J05166 /gi=203090 /ug=Rn.9860 /len=4057	Integral membrane protein.	Anion exchange protein 2 (Non- erythroid band 3- like protein) (B3RP).
J05210	2619	P16638	2620	X64330	2621	P53396	2622	90.47	ATP citrate lyase	J05210 Rat ATP citrate-lyase mRNA, complete cds /cds=(72,3374) /gb=J05210 /gi=949989 /ug=Rn.998 /len=4269	Cytoplasmic.	ATP-citrate (pro- S)-lyase (EC 4.1.3.8) (Citrate cleavage enzyme).
J05210	2623	P16638	2624	X64330	2625	P53396	2626	90.47	ATP citrate lyase	J05210 Rat ATP citrate-lyase mRNA, complete cds /cds=(72,3374) /gb=J05210 /gi=949989 /ug=Rn.998 /len=4269	Cytoplasmic.	ATP-citrate (pro- S)-lyase (EC 4.1.3.8) (Citrate cleavage enzyme).
J05405	2627	P23711	2628	D21243	2629	P30519	2630	89	Heme oxygenase-2 non-reducing isoform	J05405mRNA RATHO2 Rat heme oxygenase-2 (HO2) mRNA, complete cds	Microsomal.	Heme oxygenase 2 (EC 1.14.99.3) (HO-2).
J05405	2631	P23711	2632	D21243	2633	P30519	2634	89	Heme oxygenase-2 non-reducing isoform	J05405mRNA RATHO2 Rat heme oxygenase-2 (HO2) mRNA, complete cds	Microsomal.	Heme oxygenase 2 (EC 1.14.99.3) (HO-2).
J05470	2635	P18886	2636	M58581	2637	P23786	2638	85.95	mitochondrial carnitine palmitoyltransf- erase II (CPT II)	J05470 Rat mitochondrial carnitine palmitoyltransferase II (CPT II) mRNA, complete cds /cds=(62,2038) /gb=J05470 /gi=203579 /ug=Rn.11389 /len=2296	Mitochondrial inner membrane.	"Carnitine O- palmitoyltransfer- ase II, mitochondrial precursor(EC 2.3.1.21) (CPT II).".

Table 2.

J05510	2639	P29994	2640	D26070	2641	Q14643	2642	90.22	Rat inositol-1,4,5-trisphosphate receptor mRNA	J05510 Rat inositol-1,4,5-trisphosphate receptor mRNA, complete cds /cds=(329,8578) /gb=J05510 /gi=204673 /ug=Rn.2135 /len=9852	Integral membrane protein. Endoplasmic reticulum.	"inositol 1,4,5-trisphosphate receptor type 1 (Type 1 inositol 1,4,5-trisphosphate receptor) (Type 1 InsP3 receptor) (IP3 receptor) (isoform 1) (InsP3R1) (IP-3-R)." Protein phosphatase inhibitor 1 (IPP-1) (I-1). Protein phosphatase inhibitor 1 (IPP-1) (I-1). Protein phosphatase inhibitor 1 (IPP-1) (I-1). Protein phosphatase inhibitor 1 (IPP-1) (I-1). Protein phosphatase inhibitor 1 (IPP-1) (I-1).
J05592	2643	P19103	2644	U48707	2645	Q13522	2646	90	Phosphatase inhibitor-1 protein	J05592 Rat protein phosphatase inhibitor-1 protein mRNA, complete cds /cds=(6,521) /gb=J05592 /gi=206351 /ug=Rn.9756 /len=619		
J05592	2647	P19103	2648	U48707	2649	Q13522	2650	90	Phosphatase inhibitor-1 protein mRNA	J05592 Rat protein phosphatase inhibitor-1 protein mRNA, complete cds /cds=(6,521) /gb=J05592 /gi=206351 /ug=Rn.9756 /len=619		
J05592	2651	P19103	2652	U48707	2653	Q13522	2654	90	Phosphatase inhibitor-1 protein	J05592 Rat protein phosphatase inhibitor-1 protein mRNA, complete cds /cds=(6,521) /gb=J05592 /gi=206351 /ug=Rn.9756 /len=619		
J05592	2655	P19103	2656	U48707	2657	Q13522	2658	90	Phosphatase inhibitor-1 protein mRNA	J05592 Rat protein phosphatase inhibitor-1 protein mRNA, complete cds /cds=(6,521) /gb=J05592 /gi=206351 /ug=Rn.9756 /len=619		
J05677	2659	AAA41200	2660	NM_000907	2661	P20594	2662	60	Guanylyl cyclase A/atrial natriuretic peptide receptor (GC-A)	J05677 mRNA RATGCA Rat guanylyl cyclase A/atrial natriuretic peptide receptor (GC-A) gene, complete cds		
K00512	2663	P02688	2664	XM_040888		XP_040888			Myelin basic protein (mbp) gene mma	K00512 rat myelin basic protein (mbp) gene mma /cds=UNKNOWN /gb=K00512 /gi=205320 /ug=Rn.9872 /len=1464	Cytoplasmic side of myelin.	Myelin basic protein S (MBP S).

Table 2.

K00750	2665	AAA217 11	2666	NM_0189 47	2667	P00001	2668	91	chrome c nuclear- encoded mitochondrial gene and flanks	AJ008815	K00750exon#2-3 RATCYC Rat (Sprague- Dawley) cytochrome c nuclear-encoded mitochondrial gene and flanks
K00750	2669	AAA217 11	2670	NM_0189 47	2671	P00001	2672	91	Cytochrome C, expressed in somatic tissues		K00750exon#2-3 RATCYC Rat (Sprague- Dawley) cytochrome c nuclear-encoded mitochondrial gene and flanks
K00750	2673	AAA217 11	2674	NM_0189 47	2675	P00001	2676	91	Cytochrome C, expressed in somatic tissues		K00750exon#2-3 RATCYC Rat (Sprague- Dawley) cytochrome c nuclear-encoded mitochondrial gene and flanks
K00750	2677	AAA217 11	2678	NM_0189 47	2679	P00001	2680	91	chrome c nuclear- encoded mitochondrial gene and flanks	AJ008815	K00750exon#2-3 RATCYC Rat (Sprague- Dawley) cytochrome c nuclear-encoded mitochondrial gene and flanks
K00750	2681	AAA217 11	2682	NM_0189 47	2683	P00001	2684	91	Cytochrome C, expressed in somatic tissues		K00750exon#2-3 RATCYC Rat (Sprague- Dawley) cytochrome c nuclear-encoded mitochondrial gene and flanks
K00750	2685	AAA217 11	2686	NM_0189 47	2687	P00001	2688	91	Cytochrome C, expressed in somatic tissues		K00750exon#2-3 RATCYC Rat (Sprague- Dawley) cytochrome c nuclear-encoded mitochondrial gene and flanks
K00894	2689	AAA408 43	2690	NM_0040 57	2691	P29377	2692	75	Intestinal calcium binding protein		K00894mRNA RATCABP Rat intestinal calcium-binding protein (Icabbp) gene 2, 3 and flank

Table 2.

K01932	2693	P04804	2694	NM_000847	2695	Q16772	2696	89.73	glutathione S-transferase Yc subunit		K01932 Rat liver glutathione S-transferase Yc subunit mRNA, complete cds /cds=(44,709) /gb=K01932 /gi=204516 /ug=Rn.10460 /len=859	Cytoplasmic.	Glutathione S-transferase Yc-1 (EC 2.5.1.18) (Chain 2) (GST Yc1)(GST class-alpha).
K02248	2697	AAA42161	2698	NM_001048	2699	NP_001039	2700	85	Somatostatin-14 gene, complete cds		K02248cds RATSOM141 Rat somatostatin-14 gene, complete cds		
K02423	2701	AAA88533	2702	XM_030823	2703	XP_030823	2704	85	myosin light chain		K02423cds RATMLC131 Rat fast myosin alkali light chain exon 1, specific for MLC1-4		
K02815	2705	S04363		M17847	2706	P01907	2707	87.59	Rat mRNA for RT1-B-1(alpha) chain of integral membrane protein		K02815 Rat MHC RT1-B region class II (Ia antigen) A-alpha glycoprotein mRNA (haplotype Rt1-u) /cds=(0,390) /gb=K02815 /gi=205407 /ug=Rn.6100 /len=681		
K03045	2708	AAB06955	2709	NM_006744	2710	P02753	2711	87	Retinol-binding protein	U63146	K03045cds RATRBP02 Rat retinol-binding protein (RBP) gene, exon 5		
K03046	2712	AAB06955	2713	NM_006744	2714	P02753	2715	86	Retinol-binding protein	U63146	K03045cds RATRBP02 Rat retinol-binding protein (RBP) gene, exon 5		
K03242	2716	P06907	2717	A1557284	2718	P01037	2719	94.35	Rat Schwann cell peripheral myelin		K03242 Rat Schwann cell peripheral myelin (P-0) mRNA, complete cds /cds=(31,777) /gb=K03242 /gi=205323 /ug=Rn.11403 /len=1029	Type I membrane protein.	Myelin P0 protein precursor (Myelin protein zero) (Myelin peripheral protein) (MPP).
K03486	2720	P04410	2721	AK057555	2722	NP_002729	2723	94.74	protein kinase C type III		K03486 RATPKC32 Rat protein kinase C type III mRNA, 3' region		"Protein kinase C, beta type (EC 2.7.1.-) (PKC-beta) (PKC-B)." "

Table 2.

L00382	2724	AAA422 89	2725	NM_0032 89	2728	P07951	2727	68	beta-tropomyosin and fibroblast tropomyosin 1	L00382cds Rat skeletal muscle beta-tropomyosin and fibroblast tropomyosin 1 gene /cds=(Q.854) /gb=L00382 /gi=207496 /ug=Rn.17580 /len=855		
L01115	2728	Q03343	2729	AB007882	2730	O43306	2731	89.66	Adenylyl cyclase 6	L01115 Rattus norvegicus adenylyl cyclase type VI mRNA, complete cds /cds=(188,3698) /gb=L01115 /gi=202712 /ug=Rn.3313 /len=6036	Integral membrane protein.	*Adenylyl cyclase, type VI (EC 4.6.1.1) (ATP pyrophosphate-lyase)(Ca(2+)-inhibitable adenylyl cyclase).*
L01793	2732	NP_112305	2733	NM_004130	2734	P46976	2735	83	Glycogenin	L01793 RATMUSGLY Rattus norvegicus glycogenin mRNA sequence		
L01793	2736	AAB81219	2737	NM_004130	2738	P46976	2739	83	Glycogenin	L01793 RATMUSGLY Rattus norvegicus glycogenin mRNA sequence		
L01793	2740	NP_112305	2741	NM_004130	2742	P46976	2743	83	Glycogenin	L01793 RATMUSGLY Rattus norvegicus glycogenin mRNA sequence		
L01793	2744	AAB81219	2745	NM_004130	2746	P46976	2747	83	Glycogenin	L01793 RATMUSGLY Rattus norvegicus glycogenin mRNA sequence		
L02315	2748	A45982		AF038852	2749	O00305	2750	90.88	Calcium channel beta 4 subunit	L02315 Rattus norvegicus cDNA sequence, complete 5' and 3' UTR s /cds=UNKNOWN /gb=L02315 /gi=203128 /ug=Rn.9863 /len=3829		
L02315	2751	A45982		AF038852	2752	O00305	2753	90.88	Calcium channel beta 4 subunit	L02315 Rattus norvegicus cDNA sequence, complete 5' and 3' UTR s /cds=UNKNOWN /gb=L02315 /gi=203128 /ug=Rn.9863 /len=3829		
L03201	2754	Q02765	2755	M90696	2756	P25774	2757	76	Cathepsin S	L03201 Rattus norvegicus cathepsin S mRNA, complete cds /cds=(27,1019) /gb=L03201 /gi=203649 /ug=Rn.11347 /len=1330	Lysosomal.	Cathepsin S precursor (EC 3.4.22.27).
L03294	2758	Q06000	2759	M15856	2760	P06858	2761	92	Lipoprotein lipase	L03294 Rattus norvegicus lipoprotein lipase mRNA, complete cds /cds=(174,1598) /gb=L03294 /gi=205214 /ug=Rn.3834 /len=3617	Attached to the membrane by a GPI-anchor.	Lipoprotein lipase precursor (EC 3.1.1.34) (LPL).

Table 2.

L03294	2762	Q06000	2763	M15856	2764	P06858	2765	92	Lipoprotein lipase	L03294 Rattus norvegicus lipoprotein lipase mRNA, complete cds /cds=(174,1598) /gb=L03294 /gi=205214 /ug=Rn.3834 /len=3617	Attached to the membrane by a GPI-anchor.	Lipoprotein lipase precursor (EC 3.1.1.34) (LPL).
L03294	2766	Q06000	2767	M15856	2768	P06858	2769	92	Lipoprotein lipase	L03294 Rattus norvegicus lipoprotein lipase mRNA, complete cds /cds=(174,1598) /gb=L03294 /gi=205214 /ug=Rn.3834 /len=3617	Attached to the membrane by a GPI-anchor.	Lipoprotein lipase precursor (EC 3.1.1.34) (LPL).
L03556	2770	P52849	2771	BC013682	2772	P20719	2773	98.1	Homeo box A5	L03556 Rat (clone RAHB2 B/10) hox1.3 protein (hox1.3) mRNA, 3 end /cds=(0,703) /gb=L03556 /gi=204643 /ug=Rn.10077 /len=985	Nuclear.	Homeobox protein Hox-A5 (Hox-1.3) (Fragment).
L03556	2774	P52849	2775	BC013682	2776	P20719	2777	98.1	Homeo box A5	L03556 Rat (clone RAHB2 B/10) hox1.3 protein (hox1.3) mRNA, 3 end /cds=(0,703) /gb=L03556 /gi=204643 /ug=Rn.10077 /len=985	Nuclear.	Homeobox protein Hox-A5 (Hox-1.3) (Fragment).
L04739	2778	AA50878	2779	M95542	2780	P20020	2781	56	plasma membrane calcium ATPase.	L04739cds RATPMCA1A Rattus norvegicus plasma membrane calcium ATPase isoform 1 gene, partial cds		
L04760	2782	P36407	2783	AF230389	2784	P36406	2785	90.54	Rat nucleotide binding protein	L04760 RATGUABIND Rat nucleotide binding protein mRNA, complete cds		GTP-binding protein ARD-1 (Fragment).
L04760	2786	P36407	2787	AF230389	2788	P36406	2789	90.54	Rat nucleotide binding protein	L04760 RATGUABIND Rat nucleotide binding protein mRNA, complete cds		GTP-binding protein ARD-1 (Fragment).
L05435	2790	Q02563	2791	BC000776	2792	NP_055664	2793	91.03	synaptic vesicle protein (SV2)	L05435 Rattus norvegicus synaptic vesicle protein (SV2) mRNA, complete cds /cds=(399,2627) /gb=L05435 /gi=207091 /ug=Rn.11264 /len=3844	SYNAPTIC VESICLE.	Synaptic vesicle protein 2 (SV2).

Table 2.

L05489	2794	Q06175	2785	M60278	2786	Q99075	2797	81	Diphtheria toxin receptor (heparin binding epidermal growth factor-like growth factor)	L05489 Rat heparin-binding EGF-like growth factor mRNA, complete cds /cds=(31,657) /gb=L05489 /gi=204289 /ug=Rn.10148 /len=1550	TYPE I MEMBRANE PROTEIN. MATURE HB EGF IS RELEASED INTO THE EXTRACELLULAR SPACE AND PROBABLY BINDS TO A RECEPTOR.	Heparin-binding EGF-like growth factor precursor (HB-EGF).
L05489	2798	Q06175	2799	M60278	2800	Q99075	2801	81	Diphtheria toxin receptor (heparin binding epidermal growth factor-like growth factor)	L05489 Rat heparin-binding EGF-like growth factor mRNA, complete cds /cds=(31,657) /gb=L05489 /gi=204289 /ug=Rn.10148 /len=1550	TYPE I MEMBRANE PROTEIN. MATURE HB EGF IS RELEASED INTO THE EXTRACELLULAR SPACE AND PROBABLY BINDS TO A RECEPTOR.	Heparin-binding EGF-like growth factor precursor (HB-EGF).
L05557	2802	AAB60703	2803	J04027	2804	P20020	2805	57	Rat plasma membrane calcium ATPase isoform 2 gene, exon n+3 and partial cds	L05557cds RATPMCA2A4 Rat plasma membrane calcium ATPase isoform 2 gene, exon n+3 and partial cds		
L05557	2806	AAB60703	2807	XM_052353	2808	XP_052353	2809	98	plasma membrane calcium ATPase	L05557cds RATPMCA2A4 Rat plasma membrane calcium ATPase isoform 2 gene, exon n+3 and partial cds		



Table 2.

L07073	2810	P53676	2811	AF092092	2812	QB9272	2813	92.58	Claithrin-associated adaptor protein homolog (p47A) mRNA	L07073 Rat clathrin-associated adaptor protein homolog (p47A) mRNA, complete cds /cds=(43,1289) /gb=L07073 /gi=468379 /ug=Rn.10959 /len=2146	Adapter-related protein complex 3 mu 1 subunit (Mu-adaptin 3A) (AP-3adaptor complex mu3A subunit) (Clathrin coat assembly protein AP47homolog 1) (Clathrin coat associated protein AP47 homolog 1) (Golgi
L07074	2814	P53678	2815	D38283	2816	P53677	2817	88.05	clathrin-associated adaptor protein	L07074 Rat clathrin-associated adaptor protein homolog (p47B) mRNA, complete cds /cds=(31,1287) /gb=L07074 /gi=468381 /ug=Rn.11007 /len=3295	Adapter-related protein complex 3 mu 2 subunit (Clathrin coat assembly)protein AP47 homolog 2) (Clathrin coat associated protein AP47 homolog2) (Golgi adaptor AP-1 47 kDa protein homolog 2) (HA1 47 kDa

Table 2.

L07736	2818	P32198	2819	BC000185	2820	P50416	2821	82.27	Carnitine palmitoyltransferase 1 alpha, liver isoform	L07736 Rat carnitine palmitoyltransferase I mRNA, complete cds (cds=(102,2423) /gb=L07736 /gi=284520 /ug=Rn.2856 /len=4377	Mitochondrial outer membrane.	"Carnitine O-palmitoyltransferase 1, mitochondrial liver isoform (EC 2.3.1.21) (CPT I) (CPT1-L)."
L07925	2822	Q03386	2823	AB037729	2824	Q12967	2825	90.5	Rat guanine nucleotide dissociation stimulator	L07925 RATGNDSA Rattus rattus guanine nucleotide dissociation stimulator for a ras-related GTPase mRNA, complete cds		Rat guanine nucleotide dissociation stimulator (RaiGEF) (RaiGDS).
L07925	2826	Q03386	2827	AB037729	2828	Q12967	2829	90.5	Rat guanine nucleotide dissociation stimulator	L07925 RATGNDSA Rattus rattus guanine nucleotide dissociation stimulator for a ras-related GTPase mRNA, complete cds		Rat guanine nucleotide dissociation stimulator (RaiGEF) (RaiGDS).
L08228	2830	AAB50828	2831	NM_007327	2832	Q05588	2833	90	Rattus norvegicus N-methyl-D-aspartate receptor (NMDAR1) gene, exons 1 through 22	L08228 exon#22 RATNMDAR1 Rattus norvegicus N-methyl-D-aspartate receptor (NMDAR1) gene, exons 1 through 22		
L08490	2834	AAC42029	2835	NM_000806	2836	P14667	2837	90	Rattus rattus GABA-A receptor alpha-1 subunit gene	L08490 cde RATGABAAA Rattus rattus GABA-A receptor alpha-1 subunit gene, complete cds		

Table 2.

L08595	2838	Q07917	2839	X75918	2840	P43354	2841	93.27	nuclear receptor	L08595 Rat nuclear receptor (RNR-1) mRNA, complete cds /cds=(111,1904) /gb=L08595 /gi=310215 /ug=Rn.9839 /len=2559	Nuclear.	Orphan nuclear receptor NURR1 (NUR-related factor 1) (Regenerating liver nuclear receptor 1) (RNR-1) (SL-322) (Nuclear orphan receptor HZF-3).
L08653	2842	P38438	2843	XM_003084		XP_003094		91	transforming growth factor-b type II receptor	L08653 Rattus norvegicus transforming growth factor-b type II receptor mRNA, complete cds /cds=(58,1761) /gb=L08653 /gi=207289 /ug=Rn.9954 /len=1792	Type I membrane protein.	TGF-beta receptor type II precursor (EC 2.7.1.37) (TGFR2) (TGF-beta type II receptor).
L08656	2844	P51514	2845	NM_003205	2846	Q98081	2847	83	Rat salivary-specific cAMP response element-binding protein alpha	L08656 Rat salivary-specific cAMP response element-binding protein alpha mRNA, complete cds /cds=(203,2326) /gb=L08656 /gi=310225 /ug=Rn.9916 /len=2535	Nuclear.	Transcription factor 12 (Transcription factor HTF-4) (E-box-binding protein) (Salivary-specific cAMP response element-binding protein alpha) (SCBP alpha) (DNA-binding protein HTF4).

Table 2.

L10073	2848	P35365	2849	NM_024012	2850	NP_076917	2851	69	5-hydroxytryptamine receptor	L10073 Rattus norvegicus 5-hydroxytryptamine receptor (5HT5b) mRNA, 5' end /cds=(302,1414) /gb=L10073 /gi=310074 /ug=Rn.10572 /len=2240	Integral membrane protein.	5-hydroxytryptamine 5B receptor (5-HT-5B) (Serotonin receptor) (MR22).
L10326	2852	P04894	2853	XM_0085689		XP_009569		100	GTP-binding protein alpha-s subunit	L10326 Rattus norvegicus alternatively spliced GTP-binding protein alpha subunit (stimulatory) (GS-alpha) mRNA, complete cds /cds=(18,283) /gb=L10326 /gi=205609 /ug=Rn.31 /len=733		"Guanine nucleotide-binding protein G(S), alpha subunit (Adenylylating G-se-stimulating G alpha protein)." "
L10362	2854	S34961	2855	AK000592	2856	g3882191	2857	96.12	Rattus norvegicus synaptic vesicle protein 2B (SV2B) mRNA, complete cds	L10362 Rattus norvegicus synaptic vesicle protein 2B (SV2B) mRNA, complete cds /cds=(439,2490) /gb=L10362 /gi=207093 /ug=Rn.9940 /len=3660		
L10669	2858	AAA41253	2859	XM_050619		XP_050619		79	glycogen phosphorylase	L10669 RATGLYPHOB Rat glycogen phosphorylase muscle isozyme mRNA, partial cds		
L10669	2860	AAA41253	2861	XM_050619		XP_050619		79	glycogen phosphorylase	L10669 RATGLYPHOB Rat glycogen phosphorylase muscle isozyme mRNA, partial cds		
L11002	2862	AAB47753	2863	AB018299	2864	BAA34476	2865	91.41	Ankyrin binding glycoprotein-1 related mRNA sequence	L11002 Rat ankyrin binding glycoprotein-1 related mRNA sequence /cds=UNKNOWN /gb=L11002 /gi=202922 /ug=Rn.3048 /len=5822		

Table 2.

L11035	2866	No Rat Protein Found.	AF327018	2867	AAK27360	Rat T-cell receptor alpha chain mRNA for RT1L haplotype	L11035 RATTCAVAS Rat T-cell receptor alpha chain mRNA for RT1L haplotype
L11319	2868	P42667	AF090315	2870	P21378	90.32 2871 signal peptidase	L11319 Rat signal peptidase mRNA, complete cds /cds=(74,613) /gb=L11319 /gi=206977 /ug=Rn.24875 /len=643
L11319	2872	P42667	AF090315	2874	P21378	90.32 2875 signal peptidase	L11319 Rat signal peptidase mRNA, complete cds /cds=(74,613) /gb=L11319 /gi=206977 /ug=Rn.24875 /len=643
L11694	2876	P38652	BC019920	2878	P36871	89.84 2879 Phosphoglucose mutase 1	L11694 Rattus norvegicus phosphoglucose mutase mRNA, complete cds /cds=(43,1731) /gb=L11694 /gi=393212 /ug=Rn.9970 /len=1842
L11930	2880	Q08163	M98474	2882	Q01518	95 2883 Cyclase-associated protein homologue	L11930 Rattus norvegicus cyclase-associated protein homologue (MCH1) mRNA, complete cds /cds=(21,1445) /gb=L11930 /gi=310173 /ug=Rn.21389 /len=1460

Type II  
membrane  
protein.  
Microsomal.

Microsomal  
signal peptidase  
18 kDa subunit  
(EC 3.4.-.-)  
(SPase 18  
kDasubunit)  
(SPC18)  
(Endopeptidase  
SP18).

Type II  
membrane  
protein.  
Microsomal.

Microsomal  
signal peptidase  
18 kDa subunit  
(EC 3.4.-.-)  
(SPase 18  
kDasubunit)  
(SPC18)  
(Endopeptidase  
SP18).

Cytoplasmic.

Phosphoglucose  
mutase (EC  
5.4.2.2)  
(Glucose  
phosphomutase  
) (PGM).

CELL  
MEMBRANE

Adenylyl  
cyclase-  
associated  
protein 1 (CAP  
1).

Table 2.

L12025	2884	AAB807 67	2885	M24407	2886	P15151	2887	80.17	Tumor-associated glycoprotein pE4	L12025 Rattus norvegicus tumor-associated glycoprotein E4 (Tage4) mRNA, complete cds /cds=(65,1303) /gb=L12025 /gl=2506084 /ug=Rn.10677 /len=2171	
L12381	2888	P16500	2889	BE514791	2890	NP_001 649	2891	86.05	ADP- ribosylation factor 2	L12381 Rattus norvegicus ADP-ribosylation factor 2 mRNA, complete cds /cds=(120,665) /gb=L12381 /gl=438863 /ug=Rn.11263 /len=1700	ADP- ribosylation factor 2.
L12384	2892	P26437	2893	BI837414	2894	P26437	2895	95.06	ADP- ribosylation factor 5	L12384 Rattus norvegicus ADP-ribosylation factor 5 mRNA, complete cds /cds=(94,636) /gb=L12384 /gl=438868 /ug=Rn.10974 /len=1058	ADP- ribosylation factor 5.
L13151	2896	JT0663	2897	M23379	2898	P20936	2899	96	RAS p21 protein activator	L13151cds RATGAPX Rat GTPase- activating protein (GAP) gene, complete cds	
L13151	2900	JT0663	2901	M23379	2902	P20936	2903	96	RAS p21 protein activator	L13151cds RATGAPX Rat GTPase- activating protein (GAP) gene, complete cds	
L13406	2904	AAA414 79	2905	NM_0012 21	2906	Q13557	2907		Calcium/calmodulin- dependent protein kinase II delta subunit	L13406 RATKINDA Rattus norvegicus calcium/calmodulin-dependent protein kinase II delta subunit mRNA, partial cds	
L13406	2908	AAA414 79	2909	NM_0012 21	2910	Q13557	2911		Calcium/calmodulin- dependent protein kinase II delta subunit	L13406 RATKINDA Rattus norvegicus calcium/calmodulin-dependent protein kinase II delta subunit mRNA, partial cds	

Table 2.

L13619	2912	Q08755	2913	BC001880	2914	O15503	2915	87.97	Growth response protein (CL-6)	L13619 RATCL6A Rattus rattus Insulin-induced growth-respons protein (CL-6) mRNA, complete cds	Insulin-induced protein 1 (Insulin-induced growth response protein CL-6) (Immediate-early protein CL-6).
L13619	2916	Q08755	2917	BC001880	2918	O15503	2919	87.97	Growth response protein (CL-6)	L13619 RATCL6A Rattus rattus Insulin-induced growth-respons protein (CL-6) mRNA, complete cds	Insulin-induced protein 1 (Insulin-induced growth response protein CL-6) (Immediate-early protein CL-6).
L13619	2920	Q08755	2921	BC001880	2922	O15503	2923	87.97	Growth response protein (CL-6)	L13619 RATCL6A Rattus rattus Insulin-induced growth-respons protein (CL-6) mRNA, complete cds	Insulin-induced protein 1 (Insulin-induced growth response protein CL-6) (Immediate-early protein CL-6).

Table 2.

L13619	2924	Q08755	2925	BC001880	2926	O15503	2927	87.97	Growth response protein (CL-6)	L13619 RATCL6A Rattus rattus Insulin-induced growth-respons protein (CL-6) mRNA, complete cds		Insulin-induced protein 1 (Insulin-induced growth response protein CL-6) (Immediate-early protein CL-6).
L14462	2928	Q06195	2929	AC005944	2930	AAC72103	2931	80	R-esp1	L14462 RATESP1A Rattus rattus R-esp1 mRNA, complete cds	"NUCLEAR, THOUGH SOME AUTHORS STATE THAT IT IS PROBABLY CYTOPLASMIC."	GRG protein (ESP1 protein) (Amino enhancer of split) (AES-1/AES-2).
L14462	2932	Q06195	2933	AC005944	2934	AAC72103	2935	80	R-esp1	L14462 RATESP1A Rattus rattus R-esp1 mRNA, complete cds	"NUCLEAR, THOUGH SOME AUTHORS STATE THAT IT IS PROBABLY CYTOPLASMIC."	GRG protein (ESP1 protein) (Amino enhancer of split) (AES-1/AES-2).
L15011	2936	P41237	2937	BC024148	2938	No Human Protein Found.		93.75	Rattus norvegicus neuron-specific cortxin protein	L15011 Rattus norvegicus neuron-specific cortxin mRNA /cds=UNKNOWN /gb=L15011 /gi=294534 /ug=Rn.9131 /len=1210		Cortxin.
L15354	2939	Q63737	2940	AL117602	2941	Q13371	2942	88.28	Phosducin-like protein	L15354 RATPHLPA Rat phosducin-like protein (PhLP) mRNA, complete cds		Phosducin-like protein (PHLP).



Table 2.

L15619	2943	P13862	2944	NM_0013 20	2945	P13862	2946	94.29	Casein kinase II beta subunit	L15619 Rat casein kinase II beta subunit (CK2) mRNA, complete cds /cds=(113,760) /gb=L15619 /gi=415717 /ug=Rn.11095 /len=1944	Casein kinase II beta chain (CK II) (Phosvitin) (G5a).
L15619	2947	P13862	2948	NM_0013 20	2949	P13862	2950	94.29	Casein kinase II beta subunit	L15619 Rat casein kinase II beta subunit (CK2) mRNA, complete cds /cds=(113,760) /gb=L15619 /gi=415717 /ug=Rn.11095 /len=1944	Casein kinase II beta chain (CK II) (Phosvitin) (G5a).
L16764	2951	Q07439	2952	BC002453	2953	P01842	2954	92.64	Heat shock protein 70-1	L16764 RATHSP70A Rattus norvegicus heat shock protein 70 (HSP70) mRNA, complete cds	Heat shock 70 kDa protein 1/2 (HSP70.1/2).
L17077	2955	AAA619 86		No human homolog found.		No Human Protein Found.			NGF-binding lg rearranged H-chain mRNA, V- region, partial cds	L17077 RATIGNGFVH Rattus norvegicus NGF-binding lg rearranged H-chain mRNA, V- region, partial cds	

Table 2.

L17127	2956	P34067	2957	BC008314	2958	P28070	2959	92	proteasome RN3 subunit	L17127 RATRN3 Rattus norvegicus proteasome RN3 subunit mRNA, complete cds	Cytoplasmic and nuclear.	Proteasome subunit beta type 4 precursor (EC 3.4.25.1) (Proteasomebeta chain) (Macropain beta chain) (Multicatalytic endopeptidase complex beta chain) (Proteasome chain 3) (RN3).
L17127	2960	P34067	2961	BC008314	2962	P28070	2963	92	proteasome RN3 subunit	L17127 RATRN3 Rattus norvegicus proteasome RN3 subunit mRNA, complete cds	Cytoplasmic and nuclear.	Proteasome subunit beta type 4 precursor (EC 3.4.25.1) (Proteasomebeta chain) (Macropain beta chain) (Multicatalytic endopeptidase complex beta chain) (Proteasome chain 3) (RN3).
L17318	2964	B48013	2965	No human homolog found.		P24928	2966	36	Rattus norvegicus proline-rich proteoglycan (PRPG2) mRNA, complete cds	L17318 Rattus norvegicus proline-rich proteoglycan (PRPG2) mRNA, complete cds /cds=(21,908) /gb=L17318 /gi=310198 /lig=Rn.9870 /len=1011		

Table 2.

L18948	2867	P50116	2868	X05233	2869	P06702	2870	83.06	Intracellular calcium-binding protein	L18948 <i>Rattus norvegicus</i> intracellular calcium-binding protein (MRP14) mRNA, complete cds /cds=(31,372) /gb=L18948 /gi=488156 /ug=Rn.6703 /len=494	Calgranulin B (Migration inhibitory factor-related protein 14)(MRP-14) (p14).
L19112	2871	g31014 <sub>9</sub>		U11814	2872	P21802	2873	97.74	Rat (clone R2(A3B)) heparin-binding fibroblast growth factor receptor 2 (extracellular domain) mRNA, partial cds	L19112 Rat (clone R2(B3C)) heparin-binding fibroblast growth factor receptor 2 (extracellular domain) mRNA, partial cds /cds=(0,1061) /gb=L19112 /gi=310150 /ug=Rn.12732 /len=1082	
L19180	2874	S46217	2875	U35234	2876	2204414 <sub>A</sub>	2877	91.74	Protein tyrosine phosphatase, receptor type, D	L19180 Rat receptor-linked protein tyrosine phosphatase (PTP-P1) mRNA, complete cds /cds=(30,4517) /gb=L19180 /gi=310201 /ug=Rn.17237 /len=5396	-
L19180	2878	S46217	2879	U35234	2880	2204414 <sub>A</sub>	2881	91.74	Protein tyrosine phosphatase, receptor type, D	L19180 Rat receptor-linked protein tyrosine phosphatase (PTP-P1) mRNA, complete cds /cds=(30,4517) /gb=L19180 /gi=310201 /ug=Rn.17237 /len=5396	

Table 2.

L19341	2982	P80201	2983	NM_001105	2984	Q04771	2985	94	actin type I receptor	L19341 Ratius norvegicus actin type I receptor mRNA, complete cds /cds=(147,1676) /gb=L19341 /gi=435431 /ug=Rn.10892 /len=1780	Type I membrane protein.	Actin receptor type I precursor (EC 2.7.1.37) (ACTR-I)(Serine/threonine-protein kinase receptor R1) (SKR1) (TGF-Bsuperfamily receptor type I) (TSR-I).
L19699	2986	P36860	2987	M35416	2988	P11234	2989	95	Rat GTP-binding protein (ral B) mRNA, complete cds /cds=(64,684) /gb=L19699 /gi=310211 /ug=Rn.4586 /len=2074	L19699 Rat GTP-binding protein (ral B) mRNA, complete cds /cds=(64,684) /gb=L19699 /gi=310211 /ug=Rn.4586 /len=2074		Ras-related protein RAL-B.
L19699	2990	P36860	2991	M35416	2992	P11234	2993	95	Rat GTP-binding protein (ral B) mRNA, complete cds	L19699 Rat GTP-binding protein (ral B) mRNA, complete cds /cds=(64,684) /gb=L19699 /gi=310211 /ug=Rn.4586 /len=2074		Ras-related protein RAL-B.

Table 2.

L19998	2994	P17988	2995	L19999	2996	P50225	2997	74	Minoxidil sulfotransfere se	L19998 Rat minoxidil sulfotransferase mRNA, complete cds /cds=(77,952) /gb=L19998 /gi=310178 /ug=Rn.1507 /len=1227	Cytoplasmic.	Aryl sulfotransferase (EC 2.8.2.1) (Phenol sulfotransferase ) (PST- 1)(Sulfoknase) (Aryl sulfotransferase IV) (ASTIV) (Tyrosine- estersulfotransf erases) (Minoxidil sulfotransferase ).
L19998	2998	P17988	2999	L19999	3000	P50225	3001	74	Minoxidil sulfotransfere se	L19998 Rat minoxidil sulfotransferase mRNA, complete cds /cds=(77,952) /gb=L19998 /gi=310178 /ug=Rn.1507 /len=1227	Cytoplasmic.	Aryl sulfotransferase (EC 2.8.2.1) (Phenol sulfotransferase ) (PST- 1)(Sulfoknase) (Aryl sulfotransferase IV) (ASTIV) (Tyrosine- estersulfotransf erases) (Minoxidil sulfotransferase ).

Table 2.

L19898	3002	P17988	3003	L19899	3004	P50225	3005	74	Minoxidil sulfotransfere se	L19898 Rat minoxidil sulfotransferase mRNA, complete cds /cds=(77,952) /gb=L19898 /gi=310178 /ug=Rn.1507 /len=1227	Cytoplasmic.	Aryl sulfotransferase (EC 2.8.2.1) (Phenol sulfotransferase ) (PST- 1)(Sulfoknase) (Aryl sulfotransferase IV) (ASTIV) (Tyrosine- estersulfotransf erases) (Minoxidil sulfotransferase ).
L19898	3006	P17988	3007	L19899	3008	P50225	3009	74	Minoxidil sulfotransfere se	L19898 Rat minoxidil sulfotransferase mRNA, complete cds /cds=(77,952) /gb=L19898 /gi=310178 /ug=Rn.1507 /len=1227	Cytoplasmic.	Aryl sulfotransferase (EC 2.8.2.1) (Phenol sulfotransferase ) (PST- 1)(Sulfoknase) (Aryl sulfotransferase IV) (ASTIV) (Tyrosine- estersulfotransf erases) (Minoxidil sulfotransferase ).

Table 2.

L20427	3010	Q63159	3011	AK056955	3012	Q9NZJ6	3013	84.87	Coenzyme Q (ubiquinone)	NM_019187	L20427 Rattus norvegicus dihydroxypolyprenylbenzoate methyltransferase mRNA, complete cds /cds=(7,867) /gb=L20427 /gi=457371 /ug=Rn.3824 /len=1058	Mitochondrial matrix.	"Hexaprenyldihydroxybenzoate methyltransferase, precursor(EC 2.1.1.114) (Dihydroxyhexaprenylbenzoate methyltransferase) (3,4-dihydroxy-5-hexaprenylbenzoate methyltransferase) (DHBMethyl"
L20822	3014	Q08851	3015	NM_003164	3016	Q13190	3017	95	syntaxin 5		L20822 Rattus norvegicus syntaxin 5 mRNA, complete cds /cds=(129,1034) /gb=L20822 /gi=349322 /ug=Rn.5782 /len=1608	ENDOPLAS MIC RETICULUM- GOLGI INTERMEDI ATE COMPARTM ENT.	Syntaxin 5.
L20900	3018	I65309	3019	U37183	3020	Q05084	3021	91.45	Islet cell autoantigen 1, 69 kDa		L20900 Rattus norvegicus autoantigen p69 mRNA, complete cds /cds=(499,1941) /gb=L20900 /gi=437663 /ug=Rn.1379 /len=2094		
L21711	3022	AAA65445	3023	XM_039888		XP_039888		70	Galectin-5		L21711 PFALGT Rattus sp. (clone PbURF) galectin-5 mRNA, complete cds		
L21711	3024	AAA65445	3025	XM_039888		XP_039888		70	Galectin-5		L21711 PFALGT Rattus sp. (clone PbURF) galectin-5 mRNA, complete cds		

Table 2.

L22788	3026	P80020	3027	U19869	3028	P51161	3029	82.87	14 kDa bile acid-binding protein (L-BABP) mRNA	L22788 Rattus norvegicus 14 kDa bile acid-binding protein (L-BABP) mRNA, complete cds /cds=(48,434) /gb=L22788 /gi=348080 /ug=Rn.10008 /len=488	Cytoplasmic.	Gastrotropin (GT) (ileal lipid-binding protein) (ILBP) (Intestinal 15kDa protein) (I-15P) (14 kDa bile acid binding protein) (L-BABP).
L23148	3030	P41135	3031	AA689598	3032	JC5396		91.74	Inhibitor of DNA binding 1, helix-loop-helix protein (splice variation)	L23148 Rattus norvegicus Inhibitor of DNA-binding, splice variant Id1.25, complete cds /cds=(61,555) /gb=L23148 /gi=516116 /ug=Rn.2113 /len=1124	Nuclear.	DNA-binding protein inhibitor ID-1.
L23148	3033	P41135	3034	AA689598	3035	JC5396		91.74	Inhibitor of DNA binding 1, helix-loop-helix protein (splice variation)	L23148 Rattus norvegicus Inhibitor of DNA-binding, splice variant Id1.25, complete cds /cds=(61,555) /gb=L23148 /gi=516116 /ug=Rn.2113 /len=1124	Nuclear.	DNA-binding protein inhibitor ID-1.
L23219	3036	P43425	3037	BC014486	3038	Q60262	3039	87.25	Guanine nucleotide binding protein (G protein), gamma 7 subunit	L23219 Rattus norvegicus G protein gamma subunit (gamma7 subunit) mRNA, complete cds /cds=(240,449) /gb=L23219 /gi=349795 /ug=Rn.11335 /len=2897		Guanine nucleotide-binding protein G(i)/G(s)/G(o) gamma-7 subunit.
L24051	3040	Q63398	3041	BG535341	3042	P02593	3043	95.54	transcription factor	L24051 Rattus norvegicus transcription factor (Olf-1) mRNA, complete cds /cds=(72,1784) /gb=L24051 /gi=398587 /ug=Rn.11257 /len=2221	Nuclear.	Transcription factor COE1 (OE-1) (O/E-1) (Olfactory neuronal transcription factor) (OLF-1).



Table 2.

L24207	3044	P04800	3045	J04813	3046	P20815	3047	85.96	Testosterone 6-beta- hydroxylase (CYP3A1)	L24207 Rattus norvegicus testosterone 6- beta-hydroxylase (CYP3A1) mRNA, complete cds /cds=(66,1674) /gb=L24207 /gi=401798 /ug=Rn.11291 /len=2015	Membrane- bound. Endoplasmic reticulum.	Cytochrome P450 3A1 (EC 1.14.14.1) (CYP11A1) (P450-PCN1).
L24207	3048	P04800	3049	J04813	3050	P20815	3051	85.96	Testosterone 6-beta- hydroxylase (CYP3A1)	L24207 Rattus norvegicus testosterone 6- beta-hydroxylase (CYP3A1) mRNA, complete cds /cds=(66,1674) /gb=L24207 /gi=401798 /ug=Rn.11291 /len=2015	Membrane- bound. Endoplasmic reticulum.	Cytochrome P450 3A1 (EC 1.14.14.1) (CYP11A1) (P450-PCN1).
L24776	3052	OKRTC B	3053	M34181	3054	P22694	3055	91	Tropomyosin non-muscle isoform NM3 (TPM-gamma) mRNA, complete cds	L24776 Rattus norvegicus tropomyosin non- muscle isoform NM3 (TPM-gamma) mRNA, complete cds /cds=(18,764) /gb=L24776 /gi=438879 /ug=Rn.24727 /len=1101		
L24776	3056	OKRTC B	3057	M34181	3058	P22694	3059	91	Tropomyosin non-muscle isoform NM3 (TPM-gamma) mRNA, complete cds	L24776 Rattus norvegicus tropomyosin non- muscle isoform NM3 (TPM-gamma) mRNA, complete cds /cds=(18,764) /gb=L24776 /gi=438879 /ug=Rn.24727 /len=1101		
L25331	3060	Q63321	3061	NIM_0003 02	3062	Q02809	3063	87	lysyl hydroxylase	L25331 Rattus norvegicus lysyl hydroxylase mRNA, complete cds /cds=(143,2329) /gb=L25331 /gi=409058 /ug=Rn.4445 /len=2987	MEMBRANE BOUND IN CISTERNAE OF ROUGH ENDOPLAS MIC RETICULUM	"Procollagen- lysine,2- oxoglutarate 5- dioxygenase 1 precursor"(EC 1.14.11.4) (Lysyl hydroxylase 1) (LH1)."
L25387	3064	AAA177 57	3065	D25328	3066	Q01813	3067	83	Phosphofructo kinase C (PFK C)	L25387 RATPHOPSHC Rat phosphofructokinase C (PFK-C) mRNA, complete cds		
L25387	3068	AAA177 57	3069	D25328	3070	Q01813	3071	83	Phosphofructo kinase C (PFK C)	L25387 RATPHOPSHC Rat phosphofructokinase C (PFK-C) mRNA, complete cds		

Table 2.

L25605	3072	P39052	3073	NM_004945	3074	P60570	3075	90	dynamamin Ilaa and Ilaab	AA851887	L25605 Rat dynamamin Ilaa and Ilaab mRNA, complete cds /cds=(11,2723) /gb=L25605 /gi=416396 /ug=Rn.11231 /len=3483	MICROTUBULE-ASSOCIATE D.	Dynamamin 2 (EC 3.6.1.50).
L25633	3076	P47940	3077	NM_002846	3078	Q16849	3079	27	Regulated endocrine-specific protein 18		L25633 Rattus norvegicus neuroendocrine-specific protein (RESP18) mRNA, complete cds /cds=(87,614) /gb=L25633 /gi=468923 /ug=Rn.2225 /len=719	Secreted.	Regulated endocrine specific protein 18 precursor.
L25633	3080	P47940	3081	NM_002846	3082	Q16849	3083	27	Regulated endocrine-specific protein 18		L25633 Rattus norvegicus neuroendocrine-specific protein (RESP18) mRNA, complete cds /cds=(87,614) /gb=L25633 /gi=468923 /ug=Rn.2225 /len=719	Secreted.	Regulated endocrine specific protein 18 precursor.
L25633	3084	P47940	3085	NM_002846	3086	Q16849	3087	27	Regulated endocrine-specific protein 18		L25633 Rattus norvegicus neuroendocrine-specific protein (RESP18) mRNA, complete cds /cds=(87,614) /gb=L25633 /gi=468923 /ug=Rn.2225 /len=719	Secreted.	Regulated endocrine specific protein 18 precursor.
L25633	3088	P47940	3089	NM_002846	3080	Q16849	3091	27	Regulated endocrine-specific protein 18		L25633 Rattus norvegicus neuroendocrine-specific protein (RESP18) mRNA, complete cds /cds=(87,614) /gb=L25633 /gi=468923 /ug=Rn.2225 /len=719	Secreted.	Regulated endocrine specific protein 18 precursor.
L26267	3092	Q63369	3093	A1265879	3094	XP_028204	3095	88.46	nuclear factor kappa B p105 subunit		L26267 Rattus norvegicus nuclear factor kappa B p105 subunit mRNA, 3' end /cds=(0,1568) /gb=L26267 /gi=425471 /ug=Rn.2411 /len=2245	"NUCLEAR, BUT ALSO FOUND IN THE CYTOPLASM IN AN INACTIVE FORM COMPLEXED TO AN INHIBITOR (I KAPPA-B)."	Nuclear factor NF-kappa-B p105 subunit (DNA-binding factor KBF1) (EBP-1) (NF-kappa-B1 p84/NF-kappa-B1 p98) [Contains: Nuclear factor NF-kappa-B p50 subunit] (Fragment).

Table 2.

L26268	3086	Q63073	3097	BC016759	3098	P31607	3099	95.57	BTG1; B cell translocation gene	L26268 Rattus norvegicus anti-proliferative factor (BTG1) mRNA, complete cds /cds=(0,515) /gb=L26268 /gi=1167495 /ug=Rn.1000 /len=1464	BTG1 protein (Anti-proliferative factor).
L26268	3100	Q63073	3101	BC016759	3102	P31607	3103	95.57	BTG1; B cell translocation gene	L26268 Rattus norvegicus anti-proliferative factor (BTG1) mRNA, complete cds /cds=(0,515) /gb=L26268 /gi=1167495 /ug=Rn.1000 /len=1464	BTG1 protein (Anti-proliferative factor).
L26986	3104	P40146	3105	M83533	3106	P40145	3107	91.14	Adenylyl cyclase type VIII	L26986 Rat adenylyl cyclase type VIII mRNA, complete cds /cds=(776,4522) /gb=L26986 /gi=478017 /ug=Rn.10382 /len=4601	"Adenylyl cyclase, type VIII (EC 4.6.1.1) (ATP pyrophosphatase)(Ca(2+)/calmodulin activated adenylyl cyclase).".
L27075	3108	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			ATP-citrate lyase	L27075 Rat ATP-citrate lyase mRNA, exons 1-7 /cds=UNKNOWN /gb=L27075 /gi=436002 /ug=Rn.996 /len=13553	Mitogen-activated protein kinase 9 (EC 2.7.1.-) (Stress-activated protein kinase JNK2) (c-Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).
L27112	3109	P49188	3110	L31951	3111	P45984	3112	93.85	Stress activated protein kinase alpha II	L27112 RATSAPKB Rattus norvegicus stress activated protein kinase alpha II mRNA, complete cds	

Table 2.

L27112	3113	P49186	3114	L31951	3115	P45984	3116	93.86	Stress activated protein kinase alpha II	L27112 RATSAPKB Rattus norvegicus stress activated protein kinase alpha II mRNA, complete cds	Mitogen-activated protein kinase 9 (EC 2.7.1.-) (Stress-activated protein kinase JNK2) (c-Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).
L27421	3117	P36610	3118	NM_014286	3119	P36610	3120	89.39	neuronal calcium sensor (NCS-1)	L27421 Rattus norvegicus neuronal calcium sensor (NCS-1) mRNA, complete cds /cds=(0,572) /gb=L27421 /gi=498031 /ug=Rn.22392 /len=573	Neuronal calcium sensor 1 (NCS-1) (Frequenin homolog) (Frequenin-like protein) (Frequenin-like ubiquitous protein).
L27487	3121	Q63118	3122	U17473	3123	Q16602	3124	87.9	Rat calcitonin receptor-like receptor (CRLR) mRNA	L27487 Rat calcitonin receptor-like receptor (CRLR) mRNA /cds=UNKNOWN /gb=L27487 /gi=440338 /ug=Rn.11202 /len=3185	"POST-SYNAPTIC DENSITIES OF DENDRITES, AND IN THE PRE-SYNAPTIC NERVE TERMINAL AT NEUROMUSCULAR JUNCTIONS."
L27851	3125	AAA57157	3126	AF210455	3127	AAD37091	3128	86.28	Solute carrier family 22 (organic anion transporter), member 7	L27851 Rattus norvegicus liver-specific transport protein mRNA, complete cds /cds=(73,1680) /gb=L27851 /gi=529589 /ug=Rn.10009 /len=1910	Calcitonin gene-related peptide type 1 receptor precursor (CGRP type 1 receptor).

Table 2.

L27651	3129	AAA571 57	3130	AF210455	3131	AAD370 91	3132	86.28	Solute carrier family 22 (organic anion transporter), member 7		L27651 <i>Rattus norvegicus</i> liver-specific transport protein mRNA, complete cds /cds=73,1680 /gb=L27651 /gi=529589 /ug=Rn.10008 /len=1910		Nuclear.		Nervous-system specific octamer binding transcription factor N-OCT 3(Brain-specific homeobox/POU domain protein 2) (BRN-2 protein).
L27663	3133	P56222	3134	Z11933	3135	P20265	3136	90.9	POU domain, class 3, transcription factor 2		L27663 Rat DNA binding protein (Bm-2) mRNA sequences /cds=UNKNOWN /gb=L27663 /gi=443687 /ug=Rn.9866 /len=1814		Nuclear.		Nervous-system specific octamer binding transcription factor N-OCT 3(Brain-specific homeobox/POU domain protein 2) (BRN-2 protein).
L27663	3137	P56222	3138	Z11933	3139	P20265	3140	90.9	POU domain, class 3, transcription factor 2		L27663 Rat DNA binding protein (Bm-2) mRNA sequences /cds=UNKNOWN /gb=L27663 /gi=443687 /ug=Rn.9866 /len=1814		Nuclear.		Nervous-system specific octamer binding transcription factor N-OCT 3(Brain-specific homeobox/POU domain protein 2) (BRN-2 protein).
L27843	3141	NP_113 767	3142	U48286	3143	XP_034 503	3144	95.4	Protein tyrosine phosphatase 4a1	NIM_03157 9	L27843 RATPRL1NP Rat tyrosine phosphatase (PRL-1) mRNA, complete cds				

Table 2.

L28801	3145	A56011	3146	U02619	3147	338414	3148	77	Rat transcription factor IIC alpha-subunit mRNA, complete cds	L28801 Rat transcription factor IIC alpha-subunit mRNA, complete cds /cds=(25,6471) /gb=L28801 /gi=454176 /ug=Rn.11288 /len=6878
L28801	3149	A56011	3150	U02619	3151	338414	3152	77	Rat transcription factor IIC alpha-subunit mRNA, complete cds	L28801 Rat transcription factor IIC alpha-subunit mRNA, complete cds /cds=(25,6471) /gb=L28801 /gi=454176 /ug=Rn.11288 /len=6878
L28801	3153	A56011	3154	U02619	3155	338414	3156	77	Rat transcription factor IIC alpha-subunit mRNA, complete cds	L28801 Rat transcription factor IIC alpha-subunit mRNA, complete cds /cds=(25,6471) /gb=L28801 /gi=454176 /ug=Rn.11288 /len=6878
L28801	3157	A56011	3158	U02619	3159	338414	3160	77	Rat transcription factor IIC alpha-subunit mRNA, complete cds	L28801 Rat transcription factor IIC alpha-subunit mRNA, complete cds /cds=(25,6471) /gb=L28801 /gi=454176 /ug=Rn.11288 /len=6878
L29281	3161	S50216	3162	M35663	3163	P19525	3164	82	Protein kinase, interferon-inducible double stranded RNA dependent	L29281 Rattus norvegicus Initiation factor-2 kinase (eIF-2a) mRNA, complete cds /cds=(150,1691) /gb=L29281 /gi=468372 /ug=Rn.10022 /len=3808

Table 2.

L28573	3165	I59558	M65105	3166	P23975	3167	88	Solute carrier family 6 (neurotransmitter transporter, noradrenalin), member 2	L28573 RATNOREPIN Rat NaCl-dependent norepinephrine transporter mRNA, partial cds			
L31618	3168	Q05941	3169	X70297	3170	P36544	3171	87.81	C holingeric receptor, nicotinic, alpha polypeptide 7 (neuronal nicotinic acetylcholine receptor alpha 7) (bungarotoxin alpha)	L31618 Rattus rattus nicotinic acetylcholine receptor alpha 7 subunit mRNA, complete cds /cds=(22,1530) /gb=L31619 /gi=488919 /ug=Rn.8688 /len=2105	Integral membrane protein.	"Neuronal acetylcholine receptor protein, alpha-7 chain precursor."
L31621	3172	P04757	3173	X53559	3174	P32297	3175	89.03	Rattus norvegicus nicotinic acetylcholine receptor alpha 3 subunit mRNA, complete cds	L31621 RATNARA Rattus rattus (clone: pCA48E) nicotinic acetylcholine receptor alpha 3 subunit mRNA, complete cds	Integral membrane protein.	"Neuronal acetylcholine receptor protein, alpha-3 chain precursor."
L31621	3176	P04757	3177	X53559	3178	P32297	3179	89.03	Rattus norvegicus nicotinic acetylcholine receptor alpha 3 subunit mRNA, complete cds	L31621 RATNARA Rattus rattus (clone: pCA48E) nicotinic acetylcholine receptor alpha 3 subunit mRNA, complete cds	Integral membrane protein.	"Neuronal acetylcholine receptor protein, alpha-3 chain precursor."

Table 2.

L32591	3180	P48317	3181	M60974	3182	P24522	3183	95	gadd45	L32591 mRNA RATGADD45X Rattus norvegicus GADD45 mRNA, complete cds	Growth arrest and DNA-damage-inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).
L32591	3184	P48317	3185	M60974	3186	P24522	3187	95	gadd45	L32591 mRNA RATGADD45X Rattus norvegicus GADD45 mRNA, complete cds	Growth arrest and DNA-damage-inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).
L32591	3188	P48317	3189	M60974	3190	P24522	3191	95	gadd45	L32591 mRNA RATGADD45X Rattus norvegicus GADD45 mRNA, complete cds	Growth arrest and DNA-damage-inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).
L32591	3192	P48317	3193	M60974	3194	P24522	3195	95	gadd45	L32591 mRNA RATGADD45X Rattus norvegicus GADD45 mRNA, complete cds	Growth arrest and DNA-damage-inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).



Table 2.

L33869	3198	P13635	3197	M13699	3198	P00450	3199	86.44	Ceruloplasmin	L33869 Rat norvegicus ceruloplasmin mRNA, complete cds /cds=(15,3194) /gb=L33869 /gi=498688 /ug=Rn.8598 /len=3700	Lysosomal.	Ceruloplasmin precursor (EC 1.16.3.1) (Ferroxidase).
L34262	3200	P45479	3201	XM_028842	3202	XP_029842	3203	81	palmitoyl-protein thioesterase	L34262 Rattus norvegicus palmitoyl-protein thioesterase mRNA, complete cds /cds=(0,920) /gb=L34262 /gi=535741 /ug=Rn.1574 /len=2248		Palmitoyl-protein thioesterase 1 precursor (EC 3.1.2.22) (Palmitoyl-hydrolase 1).
L34821	3204	P51660	3205	L34820	3206	P51649	3207	84.34	Succinic semialdehyde dehydrogenase	L34821 Rat succinate-semialdehyde dehydrogenase (SSADH) mRNA, 3' end /cds=(0,1466) /gb=L34821 /gi=556394 /ug=Rn.10070 /len=1731		Succinate semialdehyde dehydrogenase (EC 1.2.1.24) (NAD(+)-dependent succinic semialdehyde dehydrogenase)
L35271	3208	Q63046	3209	D43968	3210	Q60472	3211	96.4	AML1	L35271 Rattus norvegicus AML1 mRNA, complete cds /cds=(400,1752) /gb=L35271 /gi=528577 /ug=Rn.11201 /len=2008	Nuclear.	"Runx-related transcription factor 1 (Core-binding factor, alpha 2 subunit) (CBF-alpha 2) (Acute myeloid leukemia 1 protein) (Oncogene AML-1) (Polyomavirus enhancer binding protein 2 alpha B subunit) (PEB"

Table 2.

L35571	3212	P50480	3213	A1972048	3214	XP_047951	3215	93.26	Rattus norvegicus (clone 1.8kB) islet-2 mRNA	L35571 Rattus norvegicus (clone 1.8kB) islet-2 mRNA, complete cds /cds=(76,1158) /gb=L35571 /gi=531217 /ug=Rn.10026 /len=1298	Insulin gene enhancer protein ISL-2 (islet-2).
L35571	3216	P50480	3217	A1972048	3218	I38522		93.26	Insulin related protein 2	L35571 Rattus norvegicus (clone 1.8kB) islet-2 mRNA, complete cds /cds=(76,1158) /gb=L35571 /gi=531217 /ug=Rn.10026 /len=1298	Insulin gene enhancer protein ISL-2 (islet-2).
L35821	3219	P43426	3220	NM_033258	3221	NP_150283	3222	89.05	GTP-binding protein gamma subunit	L35821 Rattus norvegicus GTP-binding protein gamma subunit (Ggamma8) mRNA, complete cds /cds=(220,432) /gb=L35821 /gi=625158 /ug=Rn.11233 /len=560	Guanine nucleotide-binding protein G(i)/G(s)/G(o) gamma-8 subunit(Gamma-9).
L36088	3223	AAC37705	3224	L17075	3225	P37023	3226	86.75	Rattus norvegicus (clone RSTK-1) serine-threonine kinase receptor type I mRNA, complete cds	L36088 Rattus norvegicus (clone RSTK-1) serine-threonine kinase receptor type I mRNA, complete cds /cds=(556,2070) /gb=L36088 /gi=609587 /ug=Rn.10631 /len=3917	
L36532	3227	AAA61821	3228	L17418	3229	AAB80694	3230	44	Rat complement regulatory protein (Crry) mRNA	L36532 Rat complement regulatory protein (Crry) mRNA, complete cds /cds=(23,1702) /gb=L36532 /gi=550510 /ug=Rn.5825 /len=1811	
L36483	3231	Q63722	3232	NM_002228	3233	Q9Y219	3234	54	Jagged 1	L36483 Rattus norvegicus jagged protein mRNA, complete cds /cds=(386,4045) /gb=L36483 /gi=1492110 /ug=Rn.11254 /len=6575	Jagged 1 precursor (Jagged1).

Table 2.

L38615	3235	P46413	3236	NM_000178	3237	P48637	3238	86	Glutathione synthetase gene	L38615 Rattus norvegicus glutathione synthetase mRNA, complete cds /cds=(44,1468) /gb=L38615 /gi=755063 /ug=Rn.1692 /len=1882	Glutathione synthetase (EC 6.3.2.3) (Glutathione synthase) (GSH-S).
L38615	3239	P46413	3240	NM_000178	3241	P48637	3242	86	Glutathione synthetase gene	L38615 Rattus norvegicus glutathione synthetase mRNA, complete cds /cds=(44,1468) /gb=L38615 /gi=755063 /ug=Rn.1692 /len=1882	Glutathione synthetase (EC 6.3.2.3) (Glutathione synthase) (GSH-S).
L38644	3243	P52298	3244	AA738059	3245	XP_017163		96.52	karyopherin beta	L38644 Rattus norvegicus karyopherin beta mRNA, complete cds /cds=(101,2728) /gb=L38644 /gi=712838 /ug=Rn.11061 /len=2991	Importin beta-1 subunit (Karyopherin beta-1 subunit) (Nuclear factorP87).
L38018	3246	AAC42059	3247	AB027587	3248	XP_008249	3249	90.97	Sodium channel protein 6	L38018 Rattus norvegicus sodium channel protein 6 (SCP6) mRNA, complete cds /cds=(0,5930) /gb=L38018 /gi=828033 /ug=Rn.10073 /len=6826	CYTOPLASMIC AND NUCLEAR ENVELOPE.
L48209	3250	P80433	3251	No human homolog found.		No Human Protein Found.			Rattus norvegicus liver cytochrome c oxidase subunit VIII (COX-VIII) mRNA, 3' end of cds	L48209 RATCOXVIII Rattus norvegicus liver cytochrome c oxidase subunit VIII (COX-VIII) mRNA, 3' end of cds	Cytochrome c oxidase polypeptide VIII-liver (EC 1.9.3.1).
M10094	3252	P15878	3253	I38874	3254	No Human Protein Found.		75	RT1 class Ib gene	M10094 Rat MHC class I truncated cell surface antigen mRNA /cds=(0,320) /gb=M10094 /gi=205412 /ug=Rn.3577 /len=628	"Class I histocompatibility antigen, Non-RT1.A alpha-1 chain precursor."

Table 2.

M10094	3255	P15978	3256	I38874	3257	I38874	75	RT1 class Ib gene	M10094 Rat MHC class I truncated cell surface antigen mRNA /cds=(0,320) /gb=M10094 /gi=205412 /ug=Rn.3577 /len=628	"Class I histocompatibility antigen, Non-RT1.A alpha-1 chain precursor."
M10934	3258	AAA42020	3259	NM_006744	3260	P02753	85	Rat retinol-binding protein (RBP) mRNA, partial cds	M10934 RATRBPA Rat retinol-binding protein (RBP) mRNA, partial cds	
M11071	3262	P15978	3263	No human homolog found.		No Human Protein Found.		Rat MHC class I cell surface antigen	M11071 Rat MHC class I cell surface antigen mRNA /cds=(0,330) /gb=M11071 /gi=205414 /ug=Rn.11168 /len=824	"Class I histocompatibility antigen, Non-RT1.A alpha-1 chain precursor."
M11596	3264	P10093	3265	M64486	3266	P01256	91.39	Rat beta-type calcitonin gene-related peptide mRNA, complete cds	M11596 Rat beta-type calcitonin gene-related peptide mRNA, complete cds /cds=(5,409) /gb=M11596 /gi=203232 /ug=Rn.10741 /len=760	Calcitonin gene-related peptide II precursor (CGRP-II) (Beta-typeCGRP).

Table 2.

M12156	3268	P04266	3269	A1339411	3270	XP_015755	3271	95.4	helix-destabilizing protein	A1235758	M12156 Rat helix-destabilizing protein mRNA, complete cds /cds=(28,990) /gb=M12156 /gi=204578 /ug=Rn.1919 /len=1696	NUCLEAR SHUTTLES CONTINUOUSLY BETWEEN THE NUCLEUS AND THE CYTOPLASM ALONG WITH MRNA COMPONENT OF RIBONUCLEOSOMES.	Heterogeneous nuclear ribonucleoprotein A1 (Helix-destabilizing protein) (Single-strand binding protein) (hnRNP core protein A1)(HDP).
M12492	3272	P12369	3273	M31158	3274	P31323	3275	88.65	type II cAMP-dependent protein kinase regulatory subunit	A1235758	M12492mRNA#1 Rat type II cAMP-dependent protein kinase regulatory subunit mRNA, 3' end /cds=UNKNOWN /gb=M12492 /gi=206670 /ug=Rn.4075 /len=3108		cAMP-dependent protein kinase type II-beta regulatory chain.
M12492	3276	P12369	3277	M31158	3278	P31323	3279	88.65	type II cAMP-dependent protein kinase regulatory subunit		M12492mRNA#1 Rat type II cAMP-dependent protein kinase regulatory subunit mRNA, 3' end /cds=UNKNOWN /gb=M12492 /gi=206670 /ug=Rn.4075 /len=3108		cAMP-dependent protein kinase type II-beta regulatory chain.
M12492	3280	P12369	3281	M31158	3282	P31323	3283	88.65	type II cAMP-dependent protein kinase regulatory subunit	A1235758	M12492mRNA#1 Rat type II cAMP-dependent protein kinase regulatory subunit mRNA, 3' end /cds=UNKNOWN /gb=M12492 /gi=206670 /ug=Rn.4075 /len=3108		cAMP-dependent protein kinase type II-beta regulatory chain.
M12492	3284	P12369	3285	M31158	3286	P31323	3287	88.65	type II cAMP-dependent protein kinase regulatory subunit		M12492mRNA#1 Rat type II cAMP-dependent protein kinase regulatory subunit mRNA, 3' end /cds=UNKNOWN /gb=M12492 /gi=206670 /ug=Rn.4075 /len=3108		cAMP-dependent protein kinase type II-beta regulatory chain.

Table 2.

M13100	3288	No human homolog found.	No Human Protein Found.	Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#1 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3289	No human homolog found.	No Human Protein Found.	Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#1 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3290	No human homolog found.	No Human Protein Found.	Long interspersed repetitive DNA sequence LINE3	M13100cds#1 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3291	No human homolog found.	No Human Protein Found.	Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#1 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3292	No human homolog found.	No Human Protein Found.	Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#1 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3293	No human homolog found.	No Human Protein Found.	Long interspersed repetitive DNA sequence LINE3	M13100cds#1 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)

Table 2.

M13100	3294	No human homolog found.	No Human Protein Found.		Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#2 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3295	No human homolog found.	No Human Protein Found.		Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#2 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3296	No human homolog found.	No Human Protein Found.		Long interspersed repetitive DNA sequence LINE3	M13100cds#2 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3297	No human homolog found.	No Human Protein Found.		Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#3 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3298	No human homolog found.	No Human Protein Found.		Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#3 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	3299	No human homolog found.	No Human Protein Found.		Long interspersed repetitive DNA sequence LINE3	M13100cds#3 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)

Table 2.

M13100	3300	No human homolog found.	No Human Protein Found.				Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#4 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)			
M13100	3301	No human homolog found.	No Human Protein Found.				Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#4 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)			
M13100	3302	No human homolog found.	No Human Protein Found.				Long interspersed repetitive DNA sequence LINE3	M13100cds#4 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)			
M13100	3303	No human homolog found.	No Human Protein Found.				Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#5 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)			
M13100	3304	No human homolog found.	No Human Protein Found.				Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)	M13100cds#5 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)			
M13100	3305	No human homolog found.	No Human Protein Found.				Long interspersed repetitive DNA sequence LINE3	M13100cds#5 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)			
M13100	3306	P08760	3307	BM01959	3308	P08236	88.86	Glucuronidase, beta	M13962mRNA#2 Rat beta-glucuronidase mRNA, complete cds /cds=UNKNOWN /gb=M13962 /gi=204329 /ug=Rn.3692 /len=2472	Lysosomal.	Beta-glucuronidase precursor (EC 3.2.1.31).



Table 2.

M14053	3310	P06536	3311	AI472273	3312	NP_000167	3313	91.43	Glucocorticoid receptor	M14053 Rat glucocorticoid receptor mRNA, complete cds /cds=(88,2455) /gb=M14053 /gi=204271 /ug=Rn.8582 /len=6322	Nuclear.	Glucocorticoid receptor (GR).
M14656	3314	P08721	3315	X13694	3316	P10451	3317	89.51	osteopontin	M14656 Rat osteopontin mRNA, complete cds /cds=(79,1032) /gb=M14656 /gi=205859 /ug=Rn.8871 /len=1457		Osteopontin precursor (Bone sialoprotein 1) (Secreted phosphoprotein 1) (SPP-1).
M15474	3318	AAA21801	3319	NM_000366	3320	P09493	3321	81	Alpha-tropomyosin gene	M15474cds RATTMA5 Rat alpha-tropomyosin gene, exon 11		
M15474	3322	AAA21801	3323	NM_000366	3324	P09493	3325	81	Alpha-tropomyosin gene	M15474cds RATTMA5 Rat alpha-tropomyosin gene, exon 11		
M15481	3326	P08024	3327	XM_052652		XP_052652		92	Insulin-like growth factor I (IGF-I)	M15481 Rat insulin-like growth factor I (IGF-I) mRNA, complete cds /cds=(793,1176) /gb=M15481 /gi=204753 /ug=Rn.8282 /len=1348	Secreted.	Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).
M15523	3328	AAA41877	3329	NM_005400	3330	Q02156	3331	83	Rat protein kinase C-family related mRNA, partial cds, clone RP16	M15523 RATPKCLB Rat protein kinase C-family related mRNA, partial cds, clone RP16		
M15562	3332	AAA41809	3333	M60334	3334	P01903	3335	64	MHC class II alpha chain RT1.D alpha (u)	M15562 Rat MHC class II RT1.u-D-alpha chain mRNA, 3' end /cds=(0,437) /gb=M15562 /gi=205435 /ug=Rn.4200 /len=805		

Table 2.

M15562	3336	CAA68 540	3337	NIM_0191 11	3338	P01903	3339	70	Rat (diabetic BB) MHC class II alpha chain RT1.D alpha (u)	Y00480	M15562 Rat MHC class II RT1.u-D-alpha chain mRNA, 3' end /cds=(0,437) /gb=M15562 /gi=205435 /ug=Rn.4200 /len=805				
M15562	3340	AAA416 09	3341	M60334	3342	P01903	3343	64	MHC class II alpha chain RT1.D alpha (u)	Y00480	M15562 Rat MHC class II RT1.u-D-alpha chain mRNA, 3' end /cds=(0,437) /gb=M15562 /gi=205435 /ug=Rn.4200 /len=805				
M15562	3344	CAA68 540	3345	NIM_0191 11	3346	P01903	3347	70	Rat (diabetic BB) MHC class II alpha chain RT1.D alpha (u)	Y00480	M15562 Rat MHC class II RT1.u-D-alpha chain mRNA, 3' end /cds=(0,437) /gb=M15562 /gi=205435 /ug=Rn.4200 /len=805				
M15768	3348	P05540	3349	NIM_0006 16	3350	P01730	3351	52	CD4 antigen		M15768 Rat W3/25 antigen (homologue of human CD4) mRNA, complete cds /cds=(53,1428) /gb=M15768 /gi=203387 /ug=Rn.10748 /len=1749	Type I membrane protein.		T-cell surface glycoprotein CD4 precursor (T-cell surface antigen T4/Leu- 3) (W3/25 antigen).	
M15882	3352	P08081	3353	M20471	3354	P09496	3355	91.57	clathrin light chain (LCA1).		M15882 Rat clathrin light chain (LCA1) mRNA, complete cds /cds=(15,861) /gb=M15882 /gi=203273 /ug=Rn.3428 /len=1124	CYTOPLAS MIC FACE OF COATED PITS AND VESICLES.		Clathrin light chain A (Lca).	
M15882	3356	P08081	3357	M20471	3358	P09496	3359	91.57	clathrin light chain (LCA1).		M15882 Rat clathrin light chain (LCA1) mRNA, complete cds /cds=(15,861) /gb=M15882 /gi=203273 /ug=Rn.3428 /len=1124	CYTOPLAS MIC FACE OF COATED PITS AND VESICLES.		Clathrin light chain A (Lca).	
M15944	3360	P07881	3361	X07168	3362	P08473	3363	91.18	Membrane metallo- endopeptidase (neutral endopeptidase /enkephalinase)		M15944 Rat enkephalinase (neutral endopeptidase) mRNA /cds=(78,2330) /gb=M15944 /gi=204031 /ug=Rn.11165 /len=3243	Type II membrane protein.		Nephrilysin (EC 3.4.24.11) (Neutral endopeptidase) (NEP)(Enkephal inase).	

Table 2.

M16112	3364	P08413	3365	AF081824	3366	Q8UNX7	3367	93.8	brain type II Ca2+/calmodulin-dependent protein kinase	M16112 Rat brain type II Ca2+/calmodulin-dependent protein kinase beta subunit mRNA, complete cds /cds=(82,1690) /gb=M16112 /gi=206170 /ug=Rn.9743 /len=1840	Calcium/calmodulin-dependent protein kinase type II beta chain (EC2.7.1.123) (CaM-kinase II beta chain) (CaM kinase II beta subunit)(CaMK-II beta subunit).
M16112	3368	P08413	3369	AF081824	3370	Q8UNX7	3371	93.8	brain type II Ca2+/calmodulin-dependent protein kinase	M16112 Rat brain type II Ca2+/calmodulin-dependent protein kinase beta subunit mRNA, complete cds /cds=(82,1690) /gb=M16112 /gi=206170 /ug=Rn.9743 /len=1840	Calcium/calmodulin-dependent protein kinase type II beta chain (EC2.7.1.123) (CaM-kinase II beta chain) (CaM kinase II beta subunit)(CaMK-II beta subunit).
M17412	3372	AAA42232	3373	NM_014367	3374	NP_055182	3375	87.72	Growth and transformation-dependent protein	M17412 Rat growth and transformation-dependent mRNA, 3' end /cds=(0,527) /gb=M17412 /gi=207249 /ug=Rn.3378 /len=587	

Table 2.

M17527	3376	P10824	3377	AF055013	3378	P04898	3379	88.01	Guanine nucleotide binding protein, alpha inhibiting 1	M17527 Rat GTP-binding protein (G-alpha-1) mRNA, complete cds /cds=(218,1282) /gb=M17527 /gi=203167 /ug=Rn.11391 /len=1945	"Guanine nucleotide-binding protein G(i), alpha-1 subunit (Adenylylating G se-inhibiting G alpha protein)."
M17527	3380	P10824	3381	AF055013	3382	P04898	3383	88.01	Guanine nucleotide binding protein, alpha inhibiting 1	M17527 Rat GTP-binding protein (G-alpha-1) mRNA, complete cds /cds=(218,1282) /gb=M17527 /gi=203167 /ug=Rn.11391 /len=1945	"Guanine nucleotide-binding protein G(i), alpha-1 subunit (Adenylylating G se-inhibiting G alpha protein)."
M18330	3384	AAA418 71	3385	XM_003106		XP_003106		87	Rat protein kinase C delta subspecies	M18330 RATPKCDA Rat protein kinase C delta subspecies	
M18330	3386	AAA418 71	3387	XM_003106		XP_003106		87	Rat protein kinase C delta subspecies	M18330 RATPKCDA Rat protein kinase C delta subspecies	
M18331	3388	AAA418 72	3389	NM_005400	3390	Q02156	3391	98	Protein kinase C epsilon subspecies	M18331 RATPKCEA Rat protein kinase C epsilon subspecies	
M18331	3392	AAA418 72	3393	NM_005400	3394	Q02156	3395	98	Protein kinase C epsilon subspecies	M18331 RATPKCEA Rat protein kinase C epsilon subspecies	
M18331	3396	AAA418 72	3397	NM_005400	3398	Q02156	3399	98	Protein kinase C epsilon subspecies	M18331 RATPKCEA Rat protein kinase C epsilon subspecies	

Table 2.

M18331	3400	AAA418 72	3401	NM_0054 00	3402	Q02156	3403	98	Protein kinase C epsilon subspecies	M18331 RATPKCEA Rat protein kinase C epsilon subspecies
M18332	3404	AAA418 78	3405	Z15108	3408	Q05513	3407	97	Protein kinase C zeta subspecies	M18332 RATPKCZA Rat protein kinase C zeta subspecies
M18528	3408	AAA414 05	3409	S65921	3410	AAB281 60	3411	82	Immunoglobulin kappa-chain	M18528cds RATIGKAH Rat (R.leucopus) Ig germline kappa-chain C-region gene, 3' end
M18358	3412	P10065	3413	M17315	3414	P11844	3415	83	Gamma-A- crystallin gene	M18358mRNA#2 Rat gamma-crystallin gene cluster, encoding gamma-A (gamma 1-1), gamma-B (gamma 1-2), gamma-C (gamma 2- 1), gamma-D (gamma 2-2), and gamma-E (gamma 3-1) crystallins, complete cds /cds=(27,551) /gb=M19359 /gi=203628 /ug=Rn.10805 /len=618
M19358	3416	AAA409 81	3417	XM_00245 8		XP_002 466		83	gamma-A- crystallin	M19358mRNA#2 Rat gamma-crystallin gene cluster, encoding gamma-A (gamma 1-1), gamma-B (gamma 1-2), gamma-C (gamma 2- 1), gamma-D (gamma 2-2), and gamma-E (gamma 3-1) crystallins, complete cds /cds=(27,551) /gb=M19359 /gi=203628 /ug=Rn.10805 /len=618
M20156	3418	P12001	3419	NM_0009 79	3420	Q07020	3421	96	ribosomal protein L18	M20156 Rat ribosomal protein L18 mRNA, complete cds /cds=(1,667) /gb=M20156 /gi=206723 /ug=Rn.484 /len=607
M22253	3422	P04774	3423	AY043484	3424	P35498	3425	90	Sodium channel, voltage-gated, type I, alpha	M22253 Rattus norvegicus sodium channel I mRNA, complete cds /cds=(251,6280) /gb=M22253 /gi=1041088 /ug=Rn.10135 /len=8399
M22357	3426	P07722	3427	NM_0806 00	3428	P20916	3429	88.91	Rat 1B236/myelin- associated glycoprotein (MAG)	M22357 Rat 1B236/myelin-associated glycoprotein (MAG) mRNA, complete cds /cds=(110,1858) /gb=M22357 /gi=205271 /ug=Rn.8688 /len=2468

Cytoplasmic.  
60S ribosomal  
protein L18.  
"Sodium  
channel protein,  
brain I alpha  
subunit."  
Myelin-  
associated  
glycoprotein  
precursor (L-  
MAG/S-MAG)  
(Brainneuron  
cytoplasmic  
protein 3).

Integral  
membrane  
protein.  
Type I  
membrane  
protein.

Table 2.

M22357	3430	P07722	3431	NM_080600	3432	P20916	3433	88.91	myelin-associated glycoprotein (MAG)	M22357 Rat 1B236/myelin-associated glycoprotein (MAG) mRNA, complete cds /cds=(110,1858) /gb=M22357 /gi=205271 /ug=Rn.9668 /len=2468	Type I membrane protein.	Myelin-associated glycoprotein precursor (L-MAG/S-MAG) (Brainneuron cytoplasmic protein 3).
M22357	3434	P07722	3435	NM_080600	3436	P20916	3437	88.91	Rat 1B236/myelin-associated glycoprotein (MAG)	M22357 Rat 1B236/myelin-associated glycoprotein (MAG) mRNA, complete cds /cds=(110,1858) /gb=M22357 /gi=205271 /ug=Rn.9668 /len=2468	Type I membrane protein.	Myelin-associated glycoprotein precursor (L-MAG/S-MAG) (Brainneuron cytoplasmic protein 3).
M22357	3438	P07722	3439	NM_080600	3440	P20916	3441	88.91	myelin-associated glycoprotein (MAG)	M22357 Rat 1B236/myelin-associated glycoprotein (MAG) mRNA, complete cds /cds=(110,1858) /gb=M22357 /gi=205271 /ug=Rn.9668 /len=2468	Type I membrane protein.	Myelin-associated glycoprotein precursor (L-MAG/S-MAG) (Brainneuron cytoplasmic protein 3).
M22400	3442	P13265	3443	L47125	3444	P51654	3445	88.19	developmentally regulated intestinal protein (OCI-5)	M22400 Rat developmentally regulated intestinal protein (OCI-5) mRNA, complete cds /cds=(114,1907) /gb=M22400 /gi=205789 /ug=Rn.9717 /len=2213	Attached to the membrane by a GPI-anchor.	Glypican-3 precursor (Intestinal protein OCI-5).
M23566	3446	A26122	3447	XM_043632		MAHU	3448	73	Alpha-2-macroglobulin	M23566exon RATA2MAC2 Rattus norvegicus alpha-2-macroglobulin gene, 3 end		
M23643	3449	RHRTT	3450	M63582	3451	P20396	3452	55	Thyrotropin releasing hormone	M23643cds RATRH02 Rattus norvegicus thyrotropin releasing hormone (TRH) gene, exon 2		

Table 2.

M24104	3453	Q64357	3454	AF135372	3455	P19065	3456	98	Vesicle-associated membrane protein (synaptobrevin 2)	M24104 Rat vesicle associated membrane protein (VAMP-1) mRNA, complete cds /cds=(97,453) /gb=M24104 /gi=207628 /ug=Rn.9972 /len=1482	TYPE II MEMBRANE PROTEIN. NEURONAL SYNAPTIC VESICLES.	Vesicle-associated membrane protein 2 (VAMP 2) (Synaptobrevin 2).
M24104	3457	Q64357	3458	AF135372	3459	P19065	3460	98	Vesicle-associated membrane protein (synaptobrevin 2)	M24104 Rat vesicle associated membrane protein (VAMP-1) mRNA, complete cds /cds=(97,453) /gb=M24104 /gi=207628 /ug=Rn.9972 /len=1482	TYPE II MEMBRANE PROTEIN. NEURONAL SYNAPTIC VESICLES.	Vesicle-associated membrane protein 2 (VAMP 2) (Synaptobrevin 2).
M24104	3461	Q64357	3462	AF135372	3463	P19065	3464	98	Vesicle-associated membrane protein (synaptobrevin 2)	M24104 Rat vesicle associated membrane protein (VAMP-1) mRNA, complete cds /cds=(97,453) /gb=M24104 /gi=207628 /ug=Rn.9972 /len=1482	TYPE II MEMBRANE PROTEIN. NEURONAL SYNAPTIC VESICLES.	Vesicle-associated membrane protein 2 (VAMP 2) (Synaptobrevin 2).
M24104	3465	Q64357	3466	AF135372	3467	P19065	3468	98	Vesicle-associated membrane protein (synaptobrevin 2)	M24104 Rat vesicle associated membrane protein (VAMP-1) mRNA, complete cds /cds=(97,453) /gb=M24104 /gi=207628 /ug=Rn.9972 /len=1482	TYPE II MEMBRANE PROTEIN. NEURONAL SYNAPTIC VESICLES.	Vesicle-associated membrane protein 2 (VAMP 2) (Synaptobrevin 2).
M24104	3469	Q64357	3470	AF135372	3471	P19065	3472	98	Vesicle-associated membrane protein (synaptobrevin 2)	M24104 Rat vesicle associated membrane protein (VAMP-1) mRNA, complete cds /cds=(97,453) /gb=M24104 /gi=207628 /ug=Rn.9972 /len=1482	TYPE II MEMBRANE PROTEIN. NEURONAL SYNAPTIC VESICLES.	Vesicle-associated membrane protein 2 (VAMP 2) (Synaptobrevin 2).

Table 2.

M24104	3473	Q84357	3474	AF135372	3475	P19065	3476	98	Vesicle-associated membrane protein (synaptobrevin 2)	AI103911	M24104 Rat vesicle associated membrane protein (VAMP-1) mRNA, complete cds /cds=(97,453) /gb=M24104 /gi=207628 /ug=Rn.9972 /len=1482	TYPE II MEMBRANE PROTEIN. NEURONAL SYNAPTIC VESICLES.	Vesicle-associated membrane protein 2 (VAMP 2) (Synaptobrevin 2).
M24542	3477	AAA420 51	3478	NM_0060 03	3478	NP_005 994	3480	85	Rieske iron-sulfur protein		M24542cds RATRIP Rat Rieske iron-sulfur protein mRNA, complete cds		
M24542	3481	AAA420 51	3482	NM_0060 03	3483	NP_005 994	3484	85	Rieske iron-sulfur protein		M24542cds RATRIP Rat Rieske iron-sulfur protein mRNA, complete cds		
M24542	3485	AAA420 51	3486	NM_0060 03	3487	NP_005 994	3488	85	Rat Rieske iron-sulfur protein mRNA, complete cds	AI103911	M24542cds RATRIP Rat Rieske iron-sulfur protein mRNA, complete cds		
M24542	3489	AAA420 51	3490	NM_0060 03	3491	NP_005 994	3492	85	Rieske iron-sulfur protein		M24542cds RATRIP Rat Rieske iron-sulfur protein mRNA, complete cds		
M24542	3493	AAA420 51	3494	NM_0060 03	3495	NP_005 994	3496	85	Rieske iron-sulfur protein		M24542cds RATRIP Rat Rieske iron-sulfur protein mRNA, complete cds		
M24542	3497	AAA420 51	3498	NM_0060 03	3499	NP_005 994	3500	85	Rat Rieske iron-sulfur protein mRNA, complete cds	AI103911	M24542cds RATRIP Rat Rieske iron-sulfur protein mRNA, complete cds		
M24604	3501	CAA68 261	3502	NM_0025 92	3503	P12004	3504	98	Cyclin (PCNA, proliferating cell nuclear antigen)	Y00047	M24604 Rat proliferating cell nuclear antigen (PCNA/cyclin) mRNA, complete cds /cds=(62,847) /gb=M24604 /gi=206047 /ug=Rn.223 /len=1160		
M24604	3505	CAA68 261	3506	NM_0025 92	3507	P12004	3508	98	Cyclin (PCNA, proliferating cell nuclear antigen)	Y00047	M24604 Rat proliferating cell nuclear antigen (PCNA/cyclin) mRNA, complete cds /cds=(62,847) /gb=M24604 /gi=206047 /ug=Rn.223 /len=1160		



Table 2.

	3509	CAA24 559	3510	J00265	3511	AAA591 72	3512	95	Insulin 1 gene	V01242		
M25584											M25584 Rat Insulin 1 gene, exons 1 (partial) and 2 /cde=(114,446) /gb=M25584 /gl=204947 /ug=Rn.982 /len=542	
M25638	3513	AAA416 94	3514	XM_005159	3515	XP_005159	3516	88	Rat smallest neurofilament protein (NF-L) mRNA, partial cds		M25638 RATNFL Rat smallest neurofilament protein (NF-L) mRNA, partial cds	
M25646	3517	P01186	3516	XM_009580		XP_009580		80	Vasopressin		M25646 Rat vasopressin mRNA, complete cds /cde=(32,526) /gb=M25646 /gl=207673 /ug=Rn.9976 /len=584	Vasopressin-neurophysin 2-copeptin precursor [Contains: Arg-vasopressin; Neurophysin 2 (Neurophysin-1); Copeptin].
M25804	3519	Q63503	3520	NM_021724	3521	P20393	3522	88	Rev-erbA-alpha protein		M25804 Rat Rev-ErbA-alpha protein mRNA, complete cds /cde=(501,2027) /gb=M25804 /gl=514963 /ug=Rn.10105 /len=2297	Orphan nuclear receptor NR1D1 (V-erbA related protein EAR-1) (Rev-erbA-alpha).
M25804	3523	Q63503	3524	NM_021724	3525	P20393	3526	88	Rev-erbA-alpha protein		M25804 Rat Rev-ErbA-alpha protein mRNA, complete cds /cde=(501,2027) /gb=M25804 /gl=514963 /ug=Rn.10105 /len=2297	Orphan nuclear receptor NR1D1 (V-erbA related protein EAR-1) (Rev-erbA-alpha).

Table 2.

M25890	3527	P01187	3528	NM_001048	3529	RIHUS1	3530	90.31	Somatostatin	M25890 Rat somatostatin mRNA, complete cds /cds=(60,410) /gb=M25890 /gi=207030 /ug=Rn.540 /len=564	Secreted.	Somatostatin precursor [Contains: Antrin; Somatostatin-28; Somatostatin-14].
M26125	3531	P07687	3532	AI636871	3533	XP_001798	3537	88.14	epoxide hydrolase	M26125 Rat epoxide hydrolase mRNA, complete cds /cds=(148,1515) /gb=M26125 /gi=207688 /ug=Rn.3603 /len=1733	MEMBRANE BOUND ON MICROSOM ES.	Epoxide hydrolase 1 (EC 3.3.2.3) (Microsomal epoxide hydrolase)(Epoxide hydrolase).
M26161	3534	P10499	3535	L02760	3536	Q09470	3541	92.82	Rattus norvegicus potassium channel protein mRNA, complete cds	M26161 Rattus norvegicus potassium channel protein mRNA, complete cds /cds=(34,1521) /gb=M26161 /gi=208490 /ug=Rn.9789 /len=1729	Integral membrane protein.	Voltage-gated potassium channel protein Kv1.1 (IA) (RBK1) (RCK1).
M26161	3538	P10499	3539	L02750	3540	Q09470	3541	92.82	Rattus norvegicus potassium channel protein mRNA, complete cds	M26161 Rattus norvegicus potassium channel protein mRNA, complete cds /cds=(34,1521) /gb=M26161 /gi=208490 /ug=Rn.9789 /len=1729	Integral membrane protein.	Voltage-gated potassium channel protein Kv1.1 (IA) (RBK1) (RCK1).
M26247	3542	AAA41162	3543	NM_000133	3544	P00740	3545	78	Rat factor IX mRNA, partial cds	M26247 RATFIXA Rat factor IX mRNA, partial cds		
M26594	3546	AAA41563	3547	L34035	3548	P48163	3549	88	malic enzyme (MAL)	M26594 Rat malic enzyme gene /cds=(0,1760) /gb=M26594 /gi=205293 /ug=Rn.22280 /len=1761		
M26594	3550	AAA41563	3551	L34035	3552	P48163	3553	88	malic enzyme	M26594 Rat malic enzyme gene /cds=(0,1760) /gb=M26594 /gi=205293 /ug=Rn.22280 /len=1761		

Table 2.

M26886	3554	P22062	3555	AF219140	3556	P22061	3557	98.7	Protein-L- isoaspartate (D-aspartate) O- methyltransferase	M26886 Rattus norvegicus carboxyl methyltransferase mRNA, complete cds /cds=(60,743) /gb=M26886 /gi=603466 /ug=Rn.7136 /len=1658	Cytoplasmic.	Protein-L- isoaspartate(D- aspartate) O- methyltransferase (EC 2.1.1.77)(Protein L-isoaspartate methyltransferase) (PIMT) (Protein L- isoaspartate/D- aspartate) methyltransferase (L- isoaspartate) protein carboxyl
M26886	3558	P22062	3559	AF219140	3560	P22061	3561	98.7	Protein-L- isoaspartate (D-aspartate) O- methyltransferase	M26886 Rattus norvegicus carboxyl methyltransferase mRNA, complete cds /cds=(60,743) /gb=M26886 /gi=603466 /ug=Rn.7136 /len=1658	Cytoplasmic.	Protein-L- isoaspartate(D- aspartate) O- methyltransferase (EC 2.1.1.77)(Protein L-isoaspartate methyltransferase) (PIMT) (Protein L- isoaspartate/D- aspartate) methyltransferase (L- isoaspartate) protein carboxyl
M27467	3562	P11951	3563	BG952851	3564	P09669	3565	83.54	Heart cytochrome oxidase subunit Vlc (COX-Vlc)	M27467 RATCOXHRT Rattus norvegicus heart cytochrome oxidase subunit Vlc (COX- Vlc) mRNA, complete cds	Mitochondrial Inner membrane.	Cytochrome c oxidase polypeptide Vlc- 2 (EC 1.9.3.1).

Table 2.

M27726	3566	AAA40815	3567	J03544	3568	P11216	3569	92	Phosphorylas e (B-GP1)	M27726 RATBGP1P Rat phosphorylase (B-GP1) mRNA, partial cds		Synapsin I.
M27726	3570	AAA40815	3571	J03544	3572	P11216	3573	92	Phosphorylas e (B-GP1)	M27726 RATBGP1P Rat phosphorylase (B-GP1) mRNA, partial cds		Synapsin II.
M27812	3574	P09951	3575	XM_013120		XP_013120		64	Synapsin Ia mRNA	M27812 Rat synapsin Ia mRNA, complete cds /cds=(80,2194) /gb=M27812 /gi=206920 /ug=Rn.9923 /len=2400		Cytochrome c oxidase polypeptide VIII-liver (EC 1.8.3.1).
M27925	3576	Q83637	3577	U40215	3578	Q82777	3578	92.86	synapsin 2a	M27925 Rat synapsin 2a mRNA, complete cds /cds=(130,1890) /gb=M27925 /gi=206833 /ug=Rn.508 /len=2848		
M28255	3580	P80433	3581	No human homolog found.		No Human Protein Found.			Cytochrome c oxidase subunit VIII mRNA, 3' end	M28255 RATCYO8A Rat cytochrome c oxidase subunit VIII mRNA, 3 end		
M28648	3582	AAA41672	3583	M37457	3584	P13637	3585	95	Na,K-ATPase alpha-2 subunit mRNA, 5' end	M28648 RATNALPH2 Rattus norvegicus Na,K-ATPase alpha-2 subunit mRNA, 5 end		
M28648	3586	AAA41672	3587	XM_009351		XP_009351		63	Na,K-ATPase alpha-2 subunit mRNA, 5' end	M28648 RATNALPH2 Rattus norvegicus Na,K-ATPase alpha-2 subunit mRNA, 5 end		
M29249	3588	P51639	3589	M11058	3590	P04035	3591	92	3-hydroxy-3-methylglutaryl-Coenzyme A reductase	M29249cds RAT3H3M Rat 3-hydroxy-3-methylglutaryl coenzyme A reductase gene, partial cds		
M29249	3592	P51639	3593	M11058	3594	P04035	3595	92	3-hydroxy-3-methylglutaryl-Coenzyme A reductase	M29249cds RAT3H3M Rat 3-hydroxy-3-methylglutaryl coenzyme A reductase gene, partial cds		

Table 2.

M29293	3596	P14648	3597	AF319523	3598	P14648	3599	92.02	Small nuclear ribonucleoprotein associated protein N (snRNP-N) (Sm-protein N) (Sm-N) (SmN) (Sm-D) (Tissue- specific splicing protein).
									M29293 Rat small nuclear ribonucleoprotein- associated protein (snRNP) mRNA, complete cds, clone Sm51 /cds=(596,1318) /gb=M29293 /gi=207005 /ug=Rn.11169 /len=1428
M31032	3600	AAA409 68	3601	NM_0072 44	3602	Q16378	3603		M31032mRNA#2 RATCRP01 Rat contiguous repeat polypeptides (CRP) mRNA, complete cds
M31032	3604	AAA409 69	3605	NM_0072 44	3606	Q16378	3607		M31032mRNA#2 RATCRP01 Rat contiguous repeat polypeptides (CRP) mRNA, complete cds
M31178	3608	P07171	3609	X06661	3610	P05937	3611	91.84	M31178 Rat calbindin D28 mRNA, complete cds /cds=(285,1070) /gb=M31178 /gi=203234 /ug=Rn.3908 /len=2280
									"Calbindin (Vitamin D- dependent calcium-binding protein, avian- type)(Calbindin D28) (D-28K) (Spot 35 protein)."

Table 2.

M31178	3612	P07171	3613	X06661	3614	P05937	3615	91.84	Cerebellar Ca-binding protein, spot 35 protein		M31178 Rat calbindin D28 mRNA, complete cds /cds=(265,1070) /gb=M31178 /gi=203234 /ug=Rn.3908 /len=2280	"Calbindin (Vitamin D-dependent calcium-binding protein)(Calbindin D28) (D-28K) (Spot 35 protein)."
M31788	3616	P16617	3617	NM_000291	3618	P00558	3619	97	phosphoglycerate kinase	AA892797	M31788 Rat X-chromosome linked phosphoglycerate kinase mRNA, complete cds /cds=(40,1293) /gb=M31788 /gi=206112 /ug=Rn.10988 /len=1675	"Phosphoglycerate kinase, testis specific (EC 2.7.2.3)."
M31788	3620	P16617	3621	NM_000291	3622	P00558	3623	97	phosphoglycerate kinase	AA892797	M31788 Rat X-chromosome linked phosphoglycerate kinase mRNA, complete cds /cds=(40,1293) /gb=M31788 /gi=206112 /ug=Rn.10988 /len=1675	"Phosphoglycerate kinase, testis specific (EC 2.7.2.3)."
M32062	3624	P27645	3625	AV703731	3626	AAA35827	3627	96.12	Fc-gamma receptor		M32062 Rat Fc-gamma receptor mRNA, complete cds /cds=(49,852) /gb=M32062 /gi=204114 /ug=Rn.6050 /len=1341	Low affinity immunoglobulin gamma FC region receptor III precursor(IGG FC receptor III) (FC-gamma RIII) (FCRIII).
M32062	3628	P27645	3629	AV703731	3630	AAA35827	3631	96.12	Fc-gamma receptor		M32062 Rat Fc-gamma receptor mRNA, complete cds /cds=(49,852) /gb=M32062 /gi=204114 /ug=Rn.6050 /len=1341	Low affinity immunoglobulin gamma FC region receptor III precursor(IGG FC receptor III) (FC-gamma RIII) (FCRIII).

Table 2.

M32062	3632	P27645	3633	AV703731	3634	AAA358 27	3635	98.12	Fo-gamma receptor	M32062 Rat Fo-gamma receptor mRNA, complete cds /cds=(49,852) /gb=M32062 /gi=204114 /ug=Rn.6050 /len=1341	Type I membrane protein.	Low affinity immunoglobulin gamma FC region receptor III precursor(IGG FC receptor III) (FC-gamma RIII) (FCRIII).
M32062	3638	P27645	3637	AV703731	3638	AAA358 27	3639	98.12	Fo-gamma receptor	M32062 Rat Fo-gamma receptor mRNA, complete cds /cds=(49,852) /gb=M32062 /gi=204114 /ug=Rn.6050 /len=1341	Type I membrane protein.	Low affinity immunoglobulin gamma FC region receptor III precursor(IGG FC receptor III) (FC-gamma RIII) (FCRIII).
M32397	3640	P20846	3641	M34840	3642	P15309	3643	84.94	Rat prostatic acid phosphatase (PAP)	M32397 Rat prostatic acid phosphatase (PAP) mRNA, complete cds /cds=(40,1185) /gb=M32397 /gi=206028 /ug=Rn.9728 /len=1603		Prostatic acid phosphatase precursor (EC 3.1.3.2).
M32397	3644	P20846	3645	M34840	3646	P15309	3647	84.94	Rat prostatic acid phosphatase (PAP)	M32397 Rat prostatic acid phosphatase (PAP) mRNA, complete cds /cds=(40,1185) /gb=M32397 /gi=206028 /ug=Rn.9728 /len=1603		Prostatic acid phosphatase precursor (EC 3.1.3.2).
M32887	3648	P15385	3649	L02751	3650	P22459	3651	90.52	Potassium channel protein (RHK1)	M32887 Rat potassium channel protein (RHK1) mRNA, complete cds /cds=(80,2044) /gb=M32887 /gi=205042 /ug=Rn.9884 /len=3201	Integral membrane protein.	Voltage-gated potassium channel protein Kv1.4 (RCK4) (RHK1) (RKA).

Table 2.

M33648	3652	P22791	3653	X83618	3654	P54868	3655	86.03	3-hydroxy-3-methylglutaryl-CoA synthase	M33648 Rat mitochondrial 3-hydroxy-3-methylglutaryl-CoA synthase mRNA, complete cds /cds=(49,1576) /gb=M33648 /gi=204618 /ug=Rn.6592 /len=1894	Mitochondrial	"Hydroxymethylglutaryl-CoA synthase, mitochondrial precursor(EC 4.1.3.5) (HMG-CoA synthase) (3-hydroxy-3-methylglutaryl coenzyme A synthase)."
M33648	3656	P22791	3657	X83618	3658	P54868	3659	86.03	3-hydroxy-3-methylglutaryl-CoA synthase	M33648 Rat mitochondrial 3-hydroxy-3-methylglutaryl-CoA synthase mRNA, complete cds /cds=(49,1576) /gb=M33648 /gi=204618 /ug=Rn.6592 /len=1894	Mitochondrial	"Hydroxymethylglutaryl-CoA synthase, mitochondrial precursor(EC 4.1.3.5) (HMG-CoA synthase) (3-hydroxy-3-methylglutaryl coenzyme A synthase)."
M34176	3660	P21851	3661	M34175	3662	P21851	3663	100	R.norvegicus beta-chain clathrin associated protein complex AP-2 mRNA, complete cds	M34176 Rat beta adaptin mRNA, complete cds /cds=(71,2884) /gb=M34176 /gi=203086 /ug=Rn.1050 /len=3477	COMPONENT OF THE COAT SURROUNDING THE CYTOPLASMIC FACE OF COATED VESICLES IN THE PLASMA MEMBRANE.	Adapter-related protein complex 2 beta 1 subunit (Beta-adaptin)(Plasma membrane adaptor HA2/AP2 adaptin beta subunit) (Clathrin assembly protein complex 2 beta large chain) (AP105B).



Table 2.

M34253	3664	P23570	3665	X14454	3666	P10914	3667	86.81	Interferon regulatory factor 1 (IRF- 1)	M34253 Rat Interferon regulatory factor 1 (IRF-1) mRNA, complete cds /cds=(197,1183) /gb=M34253 /gi=204970 /ug=Rn.6396 /len=2048	Nuclear.	Interferon regulatory factor 1 (IRF-1).
M34253	3668	P23570	3669	X14454	3670	P10914	3671	86.81	Interferon regulatory factor 1 (IRF- 1)	M34253 Rat Interferon regulatory factor 1 (IRF-1) mRNA, complete cds /cds=(197,1183) /gb=M34253 /gi=204970 /ug=Rn.6396 /len=2048	Nuclear.	Interferon regulatory factor 1 (IRF-1).
M35270	3672	P09139	3673	NM_000030	3674	P21549	3675	76	Alanine- glyoxylate amino transfer ase (Serine- pyruvate amino transfer ase)	M35270completeSeq RATSPA Rat serine pyruvate aminotransferase mRNA, complete cds	MITOCHON DRIAL MATRIX (INDUCED ON GLUCAGON ADMINISTR ATION) AND PEROXISOM ES (NOT EFFECTED BY GLUCAGON)	"Serine- pyruvate amino transferas e, mitochondrial precursor(EC 2.6.1.51) (SPT) (Alanine- glyoxylate amino transferas e)(EC 2.6.1.44) (AGT)."
M35270	3676	P09139	3677	NM_000030	3678	P21549	3679	76	Alanine- glyoxylate amino transfer ase (Serine- pyruvate amino transfer ase)	M35270completeSeq RATSPA Rat serine pyruvate aminotransferase mRNA, complete cds	MITOCHON DRIAL MATRIX (INDUCED ON GLUCAGON ADMINISTR ATION) AND PEROXISOM ES (NOT EFFECTED BY GLUCAGON)	"Serine- pyruvate amino transferas e, mitochondrial precursor(EC 2.6.1.51) (SPT) (Alanine- glyoxylate amino transferas e)(EC 2.6.1.44) (AGT)."

Table 2.

M36151	3680	AAA416 12	3681	M81141	3682	P01919	3683	77	MHC class II A-beta RT1.B- b-beta gene	M36151cds RATMHR1B Rat MHC class II A-beta RT1.B-b-beta gene, partial cds		
M38410	3684	P18297	3685	M76231	3686	P35270	3687	74	Sepiapterin reductase	M38410 Rat sepiapterin reductase mRNA, partial cds /cds=(0,779) /gb=M38410 /gi=206895 /ug=Rn.8658 /len=1157	Cytoplasmic.	Sepiapterin reductase (EC 1.1.1.153) (SPR).
M38410	3688	P18297	3689	M76231	3690	P35270	3691	74	Sepiapterin reductase	M38410 Rat sepiapterin reductase mRNA, partial cds /cds=(0,779) /gb=M38410 /gi=206895 /ug=Rn.8658 /len=1157	Cytoplasmic.	Sepiapterin reductase (EC 1.1.1.153) (SPR).
M55015	3692	AAA417 32	3693	XM_04874 1		XP_048 741		73	nucleolin	M55015cds RATNUCIA1 Rat nucleolin gene		
M55017	3694	AAA417 32	3695	XM_04874 1		XP_048 741		73	Rat nucleolin gene	M55017exon RATNUCIA2 Rat nucleolin gene		
M55417	3696	NP_036 780	3697	NM_0027 39	3698	P05129	3699	93	Protein kinase C-gamma (PRKC- gamma) gene	M55417exon RATPKCGA Rat protein kinase C-gamma (PRKC-gamma) gene, exon 1		
										NM_01262 8		
M57276	3700	P24485	3701	M37033	3702	P19397	3703	83.56	leukocyte antigen MRC- OX44	M57276 Rat leukocyte antigen MRC-OX44 mRNA, complete cds /cds=(161,820) /gb=M57276 /gi=205697 /ug=Rn.2133 /len=1699	Integral membrane protein.	Leukocyte surface antigen CD53 (Cell surface glycoprotein CD53)(Leukocyt e antigen MRC OX-44).
M57428	3704	P21425	3705	M60724	3706	P23443	3707	96.36	S6 kinase	M57428 RATSEKIN3 Rat S6 kinase mRNA, complete cds	CYTOPLAS MIC. ALSO FOUND IN THE SOLUBLE SYNAPTOS OMAL FRACTIONS.	Ribosomal protein S6 kinase I (EC 2.7.1.-) (S6K) (P70-S6K).

Table 2.

M57728	3708	P20069	3709	D21064	3710	Q10713	3711	86.9	Rat general mitochondrial matrix processing protease (MPP) mRNA, 3' end	M57728 Rat general mitochondrial matrix processing protease (MPP) mRNA, 3 end /cds=(0,1574) /gb=M57728 /gi=205516 /ug=Rn.11175 /len=1712	Mitochondrial matrix.	"Mitochondrial processing peptidase alpha subunit, mitochondrial precursor (EC 3.4.24.64) (Alpha-MPP) (P-55)." "
M57728	3712	P20069	3713	D21064	3714	Q10713	3715	86.9	Rat general mitochondrial matrix processing protease (MPP) mRNA, 3' end	M57728 Rat general mitochondrial matrix processing protease (MPP) mRNA, 3 end /cds=(0,1574) /gb=M57728 /gi=205516 /ug=Rn.11175 /len=1712	Mitochondrial matrix.	"Mitochondrial processing peptidase alpha subunit, mitochondrial precursor (EC 3.4.24.64) (Alpha-MPP) (P-55)." "
M57728	3716	P20069	3717	D21064	3718	Q10713	3719	86.9	Rat general mitochondrial matrix processing protease (MPP) mRNA, 3' end	M57728 Rat general mitochondrial matrix processing protease (MPP) mRNA, 3 end /cds=(0,1574) /gb=M57728 /gi=205516 /ug=Rn.11175 /len=1712	Mitochondrial matrix.	"Mitochondrial processing peptidase alpha subunit, mitochondrial precursor (EC 3.4.24.64) (Alpha-MPP) (P-55)." "
M57728	3720	P20069	3721	D21064	3722	Q10713	3723	86.9	Rat general mitochondrial matrix processing protease (MPP) mRNA, 3' end	M57728 Rat general mitochondrial matrix processing protease (MPP) mRNA, 3 end /cds=(0,1574) /gb=M57728 /gi=205516 /ug=Rn.11175 /len=1712	Mitochondrial matrix.	"Mitochondrial processing peptidase alpha subunit, mitochondrial precursor (EC 3.4.24.64) (Alpha-MPP) (P-55)." "
M58364	3724	P22288	3725	U63810	3726	O76071	3727	92.83	GTP cyclohydrolase I	M58364 Rat GTP cyclohydrolase I mRNA, complete cds /cds=(127,852) /gb=M58364 /gi=204536 /ug=Rn.5933 /len=1016	GTP cyclohydrolase I precursor (EC 3.5.4.16) (GTP-CH-I).	

Table 2.

M58370	3728	P17084	3729	BG311131	3730	NP_001823	3731	93.26	Collpase		M58370 Rat collpase mRNA, complete cds /cds=(58,396) /gb=M58370 /gi=203504 /ug=Rn.6714 /len=492	Collpase precursor.
M60322	3732	AAA40721	3733	NM_001628	3734	P15121	3735	85	Aldehyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)		M60322 Rat aldose reductase gene, complete cds /cds=(38,988) /gb=M60322 /gi=202851 /ug=Rn.2917 /len=1339	
M60322	3736	AAA40721	3737	NM_001628	3738	P15121	3739	85	Aldehyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)		M60322 Rat aldose reductase gene, complete cds /cds=(38,988) /gb=M60322 /gi=202851 /ug=Rn.2917 /len=1339	
M60322	3740	AAA40721	3741	NM_001628	3742	P15121	3743	85	Aldehyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)		M60322 Rat aldose reductase gene, complete cds /cds=(38,988) /gb=M60322 /gi=202851 /ug=Rn.2917 /len=1339	

Table 2.

M60322	3744	AAA407 21	3745	NM_0016 28	3746	P15121	3747	85	Aldohyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)	M60322 Rat aldose reductase gene, complete cds /cds=(38,988) /gb=M60322 /gi=202851 /ug=Rn.2917 /len=1339
M60322	3748	AAA407 21	3749	NM_0016 28	3750	P15121	3751	85	Aldohyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)	M60322 Rat aldose reductase gene, complete cds /cds=(38,988) /gb=M60322 /gi=202851 /ug=Rn.2917 /len=1339
M60322	3752	AAA407 21	3753	NM_0016 28	3754	P15121	3755	85	Aldohyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)	M60322 Rat aldose reductase gene, complete cds /cds=(38,988) /gb=M60322 /gi=202851 /ug=Rn.2917 /len=1339
M60921	3758	P27049	3757	U72649	3758	P78543	3759	88.24	B-cell translocation gene 2, anti- proliferative	M60921 Rat PC3 NGF-inducible anti- proliferative putative secreted protein (PC3) mRNA, complete cds /cds=(64,540) /gb=M60921 /gi=205720 /ug=Rn.4308 /len=2519
M60921	3760	P27049	3761	U72649	3762	P78543	3763	88.24	B-cell translocation gene 2, anti- proliferative	M60921 Rat PC3 NGF-inducible anti- proliferative putative secreted protein (PC3) mRNA, complete cds /cds=(64,540) /gb=M60921 /gi=205720 /ug=Rn.4308 /len=2519
										BTG2 protein (NGF-inducible anti-proliferative protein PC3).
										BTG2 protein (NGF-inducible anti-proliferative protein PC3).

Table 2.

M60921	3764	P27049	3765	U72649	3766	P78543	3767	88.24	B-cell translocation gene 2, anti-proliferative	M60921 Rat PC3 NGF-inducible anti-proliferative putative secreted protein (PC3) mRNA, complete cds /cds=(64,540) /gb=M60921 /gi=205720 /ug=Rn.4308 /len=2519	BTG2 protein (NGF-inducible anti-proliferative protein PC3).
M60921	3768	P27049	3769	U72649	3770	P78543	3771	88.24	B-cell translocation gene 2, anti-proliferative	M60921 Rat PC3 NGF-inducible anti-proliferative putative secreted protein (PC3) mRNA, complete cds /cds=(64,540) /gb=M60921 /gi=205720 /ug=Rn.4308 /len=2519	BTG2 protein (NGF-inducible anti-proliferative protein PC3).
M61219	3772	P24142	3773	NIM_002634	3774	P35232	3775	93	prohibitin	M61219 Rat prohibitin (phb) mRNA, complete cds /cds=(11,829) /gb=M61219 /gi=206383 /ug=Rn.719 /len=1688	Prohibitin (B-cell receptor associated protein 32) (BAP 32).
M61875	3776	P26051	3777	BF748398	3778	P04920	3779	91.33	glycoprotein CD44	M61875 Rattus norvegicus glycoprotein CD44 (CD44) mRNA, complete cds /cds=(112,1208) /gb=M61875 /gi=576532 /ug=Rn.1120 /len=2747	CD44 antigen precursor (Phagocytic glycoprotein I) (PGP-1) (HUTCH-I) (Extracellular matrix receptor-III) (ECMR-III) (GP90 lymphocyte homing/adhesion receptor) (Hermes antigen) (Hyaluronate receptor) (LY-

Table 2.

M62388	3780	P23567	3781	BC005979	3782	P23567	3783	94.36	Ubiquitin conjugating enzyme	M62388 RATUCE Rattus norvegicus ubiquitin conjugating enzyme mRNA, complete cds	Ubiquitin- conjugating enzyme E2 B (EC 6.3.2.19) (Ubiquitin- proteinligase B) (Ubiquitin carrier protein B) (HR6B) (E2-17 kDa).
M62388	3784	P23567	3785	BC005979	3786	P23567	3787	94.38	Ubiquitin conjugating enzyme	M62388 RATUCE Rattus norvegicus ubiquitin conjugating enzyme mRNA, complete cds	Ubiquitin- conjugating enzyme E2 B (EC 6.3.2.19) (Ubiquitin- proteinligase B) (Ubiquitin carrier protein B) (HR6B) (E2-17 kDa).
M62992	3788	AAA417 89	3789	XM_00898 6		XP_008 986		57	glycoprotein p62	M62992 R.rattus glycoprotein p62 gene, complete cds /cds=(716,2293) /gb=M62992 /gi=205953 /ug=Rn.354 /len=2918	
M62992	3790	AAA417 89	3791	XM_00898 6		XP_008 986		57	glycoprotein p62	M62992 R.rattus glycoprotein p62 gene, complete cds /cds=(716,2293) /gb=M62992 /gi=205953 /ug=Rn.354 /len=2918	
M63122	3792	P22934	3793	M33294	3794	P18438	3795	84.09	Tumor necrosis factor receptor	M63122 Rat tumor necrosis factor receptor (TNF receptor) mRNA, complete cds /cds=(237,1622) /gb=M63122 /gi=207361 /ug=Rn.11119 /len=2130	Type I membrane protein.  Tumor necrosis factor receptor superfamily member 1A precursor (p60)(TNF-R1) (TNF-R) (p55).

Table 2.

M63485	3786	P43244	3797	BC015031	3788	P43243	3789	92.81	matrin 3		M63485 Rattus norvegicus matrin 3 mRNA, complete cds /cds=(225,2762) /gb=M63485 /gi=2278401 /ug=Rn.8084 /len=3744	NUCLEAR MATRIX.	Matrin 3.
M63901	3800	P27882	3801	BC005349	3802	P05408	3803	88.1	neuroendocrine protein 7B2		M63901 Rat neuroendocrine protein 7B2 mRNA, complete cds /cds=(36,868) /gb=M63901 /gi=202582 /ug=Rn.8173 /len=1107	Neuroendocrine and endocrine secretory granules.	Neuroendocrine protein 7B2 precursor (Secretogranin V).
M63901	3804	P27882	3805	BC005349	3806	P05408	3807	88.1	neuroendocrine protein 7B2		M63901 Rat neuroendocrine protein 7B2 mRNA, complete cds /cds=(36,868) /gb=M63901 /gi=202582 /ug=Rn.8173 /len=1107	Neuroendocrine and endocrine secretory granules.	Neuroendocrine protein 7B2 precursor (Secretogranin V).
M63983	3808	P27605	3809	L29382	3810	AAB59392	3811	94	Rat hypoxanthine phosphoribosyltransferase	AA798402	M63983 RATHPRT Rat hypoxanthine phosphoribosyltransferase mRNA, complete cds	Cytoplasmic.	Hypoxanthine-guanine phosphoribosyltransferase (EC 2.4.2.8) (HGPRT)(HGP RTase).
M63983	3812	P27605	3813	NM_000194	3814	P00492	3815	95	hypoxanthine phosphoribosyltransferase		M63983 RATHPRT Rat hypoxanthine phosphoribosyltransferase mRNA, complete cds	Cytoplasmic.	Hypoxanthine-guanine phosphoribosyltransferase (EC 2.4.2.8) (HGPRT)(HGP RTase).
M64092	3816	P27775	3817	AF225513	3818	Q9C010	3819	84.4	CAMP-dependent protein kinase (catalytic subunit binding) inhibitor 2	NM_012627	M64092 Rat testis cAMP-dependent protein kinase inhibitor protein mRNA, complete cds /cds=(265,4770) /gb=M64092 /gi=206186 /ug=Rn.9748 /len=1350	"cAMP-dependent protein kinase inhibitor, beta form (PKI-beta) (cAMP-dependent protein kinase inhibitor, testis isoform)."	



Table 2.

M64301	3820	P27704	3821	NM_002748	3822	Q16659	3823	91.51	extracellular signal-related kinase 3.	M64301 RATERK3 Rat extracellular signal-related kinase (ERK3) mRNA, complete cds	Mitogen-activated protein kinase 6 (EC 2.7.1.-) (Extracellular signal-regulated kinase 3) (ERK-3) (p55-MAPK).
M64301	3824	P27704	3825	NM_002748	3826	Q16659	3827	91.51	extracellular signal-related kinase 3.	M64301 RATERK3 Rat extracellular signal-related kinase (ERK3) mRNA, complete cds	Mitogen-activated protein kinase 6 (EC 2.7.1.-) (Extracellular signal-regulated kinase 3) (ERK-3) (p55-MAPK).
M64376	3828	P23265	3829	NM_012377	3830	g3290001		80.65	Rat olfactory protein mRNA, complete cds	M64376 RATOLFPROB Rat olfactory protein mRNA, complete cds	Olfactory receptor-like protein F3.
M64488	3831	P29101	3832	XM_012840	3833	XP_012840	3834	56	synaptotagmin II	M64488 Rat synaptotagmin II mRNA, complete cds /cds=(114,1382) /gb=M64488 /g =207144 /ug=Rn.10042 /len=2681	SYNAPTIC VESICLES AND CHROMAFFIN GRANULES.
M64733	3835	AAA42299	3836	XM_027447		XP_027447		75	Rat TRPM-2 gene	M64733mRNA RATTRPM2B Rat TRPM-2 gene, complete cds	

Table 2.

M64755	3837	Q64611	3838	AF116545	3839	Q8Y600	3840	89.68	cysteine sulfonic acid decarboxylase	M64755 <i>Rattus norvegicus</i> cysteine sulfonic acid decarboxylase mRNA, complete cds /cds=(67,1503) /gb=M64755 /gi=847652 /ug=Rn.11321 /len=2080	Cysteine sulfonic acid decarboxylase (EC 4.1.1.29) (Sulfinoalanine decarboxylase) (Cysteine- sulfinate decarboxylase).
M64797	3841	P25114	3842	AF108765	3843	Q16877	3844	89.15	6- phosphofructo- 2- kinase/fructos e-2,6- biphosphatase 4	M64797 Rat testis fructose-6-phosphate, 2- kinase-fructose-2, 6-bisphosphatase mRNA, complete cds /cds=(34,1443) /gb=M64797 /gi=204147 /ug=Rn.10825 /len=1739	"6- phosphofructo-2- kinase/fructose- 2,6- biphosphatase 4 (6PF-2-K/Fru- 2,6-P2ASE testis-type isozyme) [Includes: 6- phosphofructo-2- kinase(EC 2.7.1.105); Fructose-2,6- biphosphatase (EC 3.1.3.46)]."

Table 2.

M64986	3845	P07155	3846	AV701053	3847	P09429	3848	100	amphoterin	M64986 Rat amphoterin mRNA, complete cds /cds=(122,769) /gb=M64986 /gi=202884 /ug=Rn.4121 /len=1225	"NUCLEAR AND ALSO CYTOPLAS MIC, ASSOCIATED WITH THE PLASMA MEMBRANE OF FILIPODIA IN PROCESS-GROWING CELLS, AND ALSO DEPOSITED INTO THE SUBSTRATE ATTACHED MATERIAL."	High mobility group protein 1 (HMG-1) (Amphoterin) (Heparin-binding protein p30).
M64986	3849	P07155	3850	AV701053	3851	P09429	3852	100	amphoterin	M64986 Rat amphoterin mRNA, complete cds /cds=(122,769) /gb=M64986 /gi=202884 /ug=Rn.4121 /len=1225	"NUCLEAR AND ALSO CYTOPLAS MIC, ASSOCIATED WITH THE PLASMA MEMBRANE OF FILIPODIA IN PROCESS-GROWING CELLS, AND ALSO DEPOSITED INTO THE SUBSTRATE ATTACHED MATERIAL."	High mobility group protein 1 (HMG-1) (Amphoterin) (Heparin-binding protein p30).

Table 2.

M65251	3853	Q00900	3854	X65644	3855	P31629	3856	92.8	Human Immunodeficiency virus type 1 enhancer-binding protein 2	M65251 Rat angiotensinogen gene-inducible enhancer-binding protein 1 mRNA, 3' end /cds=(0,2752) /gb=M65251 /gi=202790 /ug=Rn.9802 /len=3774	Nuclear.	DNA-binding protein AGIE- BP1 (Angiotensinogen enhancer-binding protein 1) (Fragment).
M65251	3857	Q00900	3858	X65644	3859	P31629	3860	92.8	Human Immunodeficiency virus type 1 enhancer-binding protein 2	M65251 Rat angiotensinogen gene-inducible enhancer-binding protein 1 mRNA, 3' end /cds=(0,2752) /gb=M65251 /gi=202790 /ug=Rn.9802 /len=3774	Nuclear.	DNA-binding protein AGIE- BP1 (Angiotensinogen enhancer-binding protein 1) (Fragment).
M68971	3861	P27881	3862	AF148513	3863	P52789	3864	94	Hexokinase 2	M68971 Rat hexokinase type II (HKII) mRNA, complete cds /cds=(197,2850) /gb=M68971 /gi=204612 /ug=Rn.22613 /len=3635		Hexokinase type II (EC 2.7.1.1) (HK II).
M73714	3865	P30839	3866	XM_045058	XP_045058			84	aldehyde dehydrogenase	M73714 Rat microsomal aldehyde dehydrogenase mRNA, complete cds /cds=(123,1577) /gb=M73714 /gi=205265 /ug=Rn.9113 /len=2977	CYTOPLASMIC SURFACE OF THE ENDOPLASMIC RETICULUM MEMBRANE. 3."	"Fatty aldehyde dehydrogenase (EC 1.2.1.3) (Aldehyde dehydrogenase, microsomal) (ALDH class 3)."

Table 2.

M73808	3667	P31325	3868	NM_006213	3869	Q16816	3870	60	phosphorylase kinase catalytic subunit	M73808 mRNA Rat phosphorylase kinase catalytic subunit mRNA, complete CDS /cde=UNKNOWN /gb=M73808 /gi=206163 /ug=Rn.11153 /len=1838	"Phosphorylase B kinase gamma catalytic chain, testis/liver isoform (EC 2.7.1.38) (PHK-gamma-T) (Phosphorylase kinase gamma subunit 2)."
M74223	3871	P20156	3872	BF223121	3873	g5630085	3877	94.34	VGF nerve growth factor inducible	M74223 Rat VGF mRNA, complete cds /cde=(183,2036) /gb=M74223 /gi=207650 /ug=Rn.9704 /len=2507	Neurosecretory protein VGF precursor (VGF8a protein).
M74439	3874	AAA42314	3875	NM_001077	3876	O75795	3877	66	UDP glucuronosyltransferase gene, complete cds	M74439 mRNA RATUDPGV Rattus rattus UDP glucuronosyltransferase gene, complete cds	Stored in secretory vesicles and then secreted.
M74494	3878	P06685	3879	D00099	3880	P05023	3881	86	ATPase, Na+K+ transporting, alpha 1 polypeptide	M74494 Rat sodium/potassium ATPase alpha-1 subunit truncated isoform mRNA, 3 end /cde=(0,731) /gb=M74494 /gi=205629 /ug=Rn.2892 /len=936	Sodium/potassium-transporting ATPase alpha-1 chain precursor (EC 3.6.3.9) (Sodium pump 1) (Na+/K+ ATPase 1).

Table 2.

M74494	3882	P06685	3883	D00098	3884	P05023	3885	98	ATPase, Na+K+ transporting, alpha 1 polypeptide	M74494 Rat sodium/potassium ATPase alpha-1 subunit truncated isoform mRNA, 3 end /cds=(0,731) /gb=M74494 /gi=205629 /ug=Rn.2982 /len=936	Integral membrane protein.	Sodium/potassium-transporting ATPase alpha-1 chain precursor(EC 3.6.3.9) (Sodium pump 1) (Na+/K+ ATPase 1).
M75153	3886	P24410	3887	X53143	3888	P24410	3889	94,94	RAB11a, member RAS oncogene family	M75153 R.norvegicus ras p21-like small GTP-binding protein (24KG) mRNA, complete cds /cds=(0,650) /gb=M75153 /gi=208566 /ug=Rn.1016 /len=895		Ras-related protein Rab-11A (RAB-11) (24KG) (Y1L8).
M75153	3890	P24410	3891	X53143	3892	P24410	3893	94,94	RAB11a, member RAS oncogene family	M75153 R.norvegicus ras p21-like small GTP-binding protein (24KG) mRNA, complete cds /cds=(0,650) /gb=M75153 /gi=208566 /ug=Rn.1016 /len=895		Ras-related protein Rab-11A (RAB-11) (24KG) (Y1L8).
M75168	3894	Q63413	3895	AK026762	3896	NP_004631	3897	93,68	Rattus norvegicus liver nuclear protein p47	M75168 Rattus norvegicus liver nuclear protein p47 mRNA /cds=(99,1298) /gb=M75168 /gi=205941 /ug=Rn.3516 /len=1643	Nuclear.	Probable ATP-dependent RNA helicase p47.
M75168	3898	Q63413	3899	AK026762	3900	NP_004631	3901	93,68	liver nuclear protein p47	M75168 Rattus norvegicus liver nuclear protein p47 mRNA /cds=(99,1298) /gb=M75168 /gi=205941 /ug=Rn.3516 /len=1643	Nuclear.	Probable ATP-dependent RNA helicase p47.
M76426	3902	P46101	3903	M96860	3904	P42658	3905	93	Dipeptidylpeptidase 6	M76426 Rattus norvegicus dipeptidyl aminopeptidase-related protein (dpp6) mRNA, complete cds /cds=(187,2776) /gb=M76426 /gi=408713 /ug=Rn.10076 /len=2819	Type II membrane protein .	Dipeptidyl peptidase IV like protein (Dipeptidyl aminopeptidase-related protein) (Dipeptidylpeptidase VI) (DPPX).

Table 2.

M76426	3906	P46101	3907	M96860	3908	P42658	3909	93	Dipeptidyl/peptidase 6	M76426 Rattus norvegicus dipeptidyl aminopeptidase-related protein (dpp6) mRNA, complete cds /cds=(197,2776) /gb=M76426 /gi=408713 /ug=Rn.10076 /len=2819	Type II membrane protein.	Dipeptidyl peptidase IV like protein (Dipeptidyl aminopeptidase-related protein) (Dipeptidyl/peptidase VI) (DPPX).
M76740	3910	AAA41642	3911	AF007194	3912	AAC02272	3913	55	Rat Intestinal mucin mRNA	M76740 RATMUCINI Rat Intestinal mucin mRNA, partial cds		
M76740	3914	AAA41642	3915	AF007194	3916	AAC02272	3917	55	Rat Intestinal mucin mRNA, partial cds	M76740 RATMUCINI Rat Intestinal mucin mRNA, partial cds		
M77245	3918	P52303	3919	L13939	3920	Q10567	3921	96	Adaptor protein complex AP-1, beta 1 subunit	M77245 R.norvegicus beta -chain clathrin associated protein complex AP-1 mRNA, complete cds /cds=(38,2888) /gb=M77245 /gi=203112 /ug=Rn.9466 /len=3663	Component of the coat surrounding the cytoplasmic face of coated vesicles located at the Golgi complex.	Adapter-related protein complex 1 beta 1 subunit (Beta-adaptin 1)/Adaptor protein complex AP-1 beta-1 subunit (Golgi adaptor HA1/AP1 adaptor in beta subunit) (Clathrin assembly protein complex 1 betalarg

Table 2.

M77694	3922	P25093	3923	X51728	3924	P16930	3925	85.26	fumarylacetoac etate hydrolase (FAH)	M77694 R.norvegicus fumarylacetoac etate hydrolase (FAH) mRNA, complete cds /cds=(22,1281) /gb=M77694 /gi=204089 /ug=Rn.9195 /len=1373	Fumarylacetoac etase (EC 3.7.1.2) (Fumarylacetoac etate hydrolase)(Beta- diketonease) (FAH).
M80367	3926	AAA199 09	3927	M55542	3928	P32455	3928	88.73	isoprenylated 67 kDa protein	M80367 Rat isoprenylated 67 kDa protein mRNA, complete cds /cds=(172,1947) /gb=M80367 /gi=207604 /ug=Rn.7932 /len=2396	
M80501	3930	P47816	3931	AK055180	3932	g379013 3	3932	87.27	Programmed cell death 2	M80501 Rat zinc finger protein (RP8) mRNA, 3' end /cds=(0,863) /gb=M80501 /gi=206717 /ug=Rn.6959 /len=912	Programmed cell death protein 2 (Zinc finger protein RP-8) (Fragment).
M80804	3933	Q84319	3934	L11696	3935	Q07837	3936	82.89	Rattus norvegicus unknown mRNA	M80804 RATSSTRAP Rat protein which stimulates transport of cystine and dibasic and neutral amino acids mRNA, complete cds protein.	"Neutral and basic amino acid transport protein rBAT (B(0,+)- typeamino acid transport protein) (NAA- TR) (D2)."
M81642	3937	P26824	3938	M62424	3939	P25116	3940	77	Thrombin receptor	M81642 Rat G-protein coupled thrombin receptor mRNA, complete cds /cds=(73,1371) /gb=M81642 /gi=207465 /ug=Rn.2609 /len=3418	Proteinase activated receptor 1 precursor (PAR- 1) (Thrombin receptor).
M81642	3941	P26824	3942	M62424	3943	P25116	3944	77	Thrombin receptor	M81642 Rat G-protein coupled thrombin receptor mRNA, complete cds /cds=(73,1371) /gb=M81642 /gi=207465 /ug=Rn.2609 /len=3418	Proteinase activated receptor 1 precursor (PAR- 1) (Thrombin receptor).



Table 2.

M81687	3945	P34900	3946	AI373958	3947	P34741	3948	90.2	core protein (HSPG)	M81687 Rat core protein (HSPG) mRNA, complete cds /cds=(353,988) /gb=M81687 /gi=204668 /ug=Rn.11127 /len=2153	Type I membrane protein.	Syndecan-2 precursor (Fibroglycan) (Heparan sulfate proteoglycan coreprotein) (HSPG) (SYND2).
M82828	3949	AAA416 91	3950	XM_05012 1	XP_050 121	XP_050 121	3956	99	Rattus leucopus neurofibromat osis protein type I (NF1, type III splice variant) mRNA, 3' end	M82828 RATNF1ASAC Rattus leucopus neurofibromatosis protein type I (NF1, type III splice variant) mRNA, 3 end		
M82826	3951	AAA416 91	3952	XM_05012 1	XP_050 121	XP_050 121	3956	99	Rattus leucopus neurofibromat osis protein type I (NF1, type III splice variant) mRNA, 3' end	M82826 RATNF1ASAC Rattus leucopus neurofibromatosis protein type I (NF1, type III splice variant) mRNA, 3 end		
M83107	3953	P31232	3954	XM_00643 2	XP_006 432	XP_006 432	3956	97	SM22	M83107 Rat SM22 mRNA, complete cds /cds=(162,767) /gb=M83107 /gi=202982 /ug=Rn.774 /len=1169	Cytoplasmic.	Transgelin (Smooth muscle protein 22- alpha) (SM22- alpha).

Table 2.

M83298	3957	P36876	3958	BM01489	3959	NP_002708	3960	93.3	Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha	D14419	M83298 Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha mRNA, complete cds /cds=(284,1627) /gb=M83298 /gi=206298 /ug=Rn.2166 /len=2142	"Serine/threonine protein phosphatase 2A, 55 kDa regulatory subunit B, alpha isoform (PP2A, subunit B, B55-alpha isoform) (PP2A, subunit B, PR55-alpha isoform) (PP2A, su"
M83298	3961	P36876	3962	BM01489	3963	NP_002708	3964	93.3	Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha	D14419	M83298 Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha mRNA, complete cds /cds=(284,1627) /gb=M83298 /gi=206298 /ug=Rn.2166 /len=2142	"Serine/threonine protein phosphatase 2A, 55 kDa regulatory subunit B, alpha isoform (PP2A, subunit B, B55-alpha isoform) (PP2A, subunit B, PR55-alpha isoform) (PP2A, su"

Table 2.

M83298	3965	P36876	3966	BM01489 3	3967	NP_002 708	3968	93.3	Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha	D14419	M83298 Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha mRNA, complete cds /cds=(284,1627) /gb=M83298 /gi=206298 /ug=Rn.2168 /len=2142	"Serine/threonin e protein phosphatase 2A, 55 kDa regulatory subunit B, alpha isoform (PP2A, subunit B, B- alpha isoform) (PP2A, subunit B, B55-alpha isoform) (PP2A, subunit B, PR55 alpha isoform) (PP2A, su"
M83298	3969	P36876	3970	BM01489 3	3971	NP_002 708	3972	93.3	Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha	D14419	M83298 Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha mRNA, complete cds /cds=(284,1627) /gb=M83298 /gi=206298 /ug=Rn.2168 /len=2142	"Serine/threonin e protein phosphatase 2A, 55 kDa regulatory subunit B, alpha isoform (PP2A, subunit B, B- alpha isoform) (PP2A, subunit B, B55-alpha isoform) (PP2A, subunit B, PR55 alpha isoform) (PP2A, su"

Table 2.

M83298	3973	P36876	3974	BIM01489 3	3975	NP_002 708	3976	93.3	Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha	D14419	M83298 Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha mRNA, complete cds /cds=(284,1627) /gb=M83298 /gi=206298 /ug=Rn.2166 /len=2142	"Serine/threonin e protein phosphatase 2A, 55 kDa regulatory subunit B, alpha isoform (PP2A, subunit B, B- alpha isoform) (PP2A, subunit B, B55-alpha isoform) (PP2A, subunit B, PR55- alpha isoform) (PP2A,su"
M83298	3977	P36876	3978	BIM01489 3	3979	NP_002 708	3980	93.3	Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha	D14419	M83298 Rat protein phosphatase 2A (PP2A) 55 kD regulatory subunit alpha mRNA, complete cds /cds=(284,1627) /gb=M83298 /gi=206298 /ug=Rn.2166 /len=2142	"Serine/threonin e protein phosphatase 2A, 55 kDa regulatory subunit B, alpha isoform (PP2A, subunit B, B- alpha isoform) (PP2A, subunit B, B55-alpha isoform) (PP2A, subunit B, PR55- alpha isoform) (PP2A,su"

Table 2.

M83561	3981	P22756	3982	U16125	3983	P39086	3984	97	Glutamate receptor, ionotropic, kainate 1		M83561 Rattus norvegicus glutamate receptor subunit 5-2 (GluR5-2), kainate subtype mRNA, complete cds /cds=(187,2904) /gb=M83561 /gi=204389 /ug=Rn.10449 /len=3185	Integral membrane protein.	"Glutamate receptor, ionotropic kainate 1 precursor (Glutamate receptor5) (GLUR-5) (GluR5)."
M83561	3985	P22756	3986	U16125	3987	P39086	3988	97	Glutamate receptor, ionotropic, kainate 1		M83561 Rattus norvegicus glutamate receptor subunit 5-2 (GluR5-2), kainate subtype mRNA, complete cds /cds=(187,2904) /gb=M83561 /gi=204389 /ug=Rn.10449 /len=3185	Integral membrane protein.	"Glutamate receptor, ionotropic kainate 1 precursor (Glutamate receptor5) (GLUR-5) (GluR5)."
M83675	3989	P35280	3990	X56741	3991	P24407	3992	89.8	RAB8		M83675 Sprague-Dawley (clone LRB11) RAB8 mRNA, complete cds /cds=(27,404) /gb=M83675 /gi=206540 /ug=Rn.9823 /len=840		Ras-related protein Rab-8 (Fragment).
M83678	3993	P35286	3994	X75593	3995	P51163	3996	90	RAB13		M83678 Sprague-Dawley (clone LRB10) RAB13 mRNA, 3 end /cds=(0,494) /gb=M83678 /gi=206532 /ug=Rn.9819 /len=857		Ras-related protein Rab-13 (Fragment).
M83679	3997	AAA419 95	3998	XM_05052 5		XP_050 525		52	RAB15		M83679 Sprague-Dawley (clone LRB9) RAB15 mRNA, complete cds /cds=(219,857) /gb=M83679 /gi=206538 /ug=Rn.9821 /len=945		
M83681	3999	Q63942	4000	NM_0042 83	4001	O95716	4002	88	RAB16		M83681 Sprague-Dawley (clone LRB2) RAB16 mRNA, complete cds /cds=(0,596) /gb=M83681 /gi=206538 /ug=Rn.9822 /len=1889		GTP-binding protein Rab-3D.
M83740	4003	CAA06 587	4004	NM_0002 81	4005	P80095	4006	100	Dimerization cofactor of HNF1; pterin- 4a- carbinolamin dehydratase	AJ005542	M83740 RATHOME OA Rat cofactor mRNA sequence		

Table 2.

M83746	4007	P28841	4008	BC005815	4009	P16519	4010	90.1	Proprotein convertase subtilisin/kexin type 2	M83746 Rat homologue of Kex2 and furin proteins mRNA, complete cds /cds=(294,2210) /gb=M83746 /gi=205084 /ug=Rn.9888 /len=2428	LOCALIZED IN THE SECRETION GRANULES.	Neuroendocrine convertase 2 precursor (EC 3.4.21.94) (NEC 2) (PC2)(Prohormone convertase 2) (Proprotein convertase 2) (KEX2- like endoprotease 2).
M84719	4011	P36365	4012	M64082	4013	Q01740	4014	82	Flavin- containing monooxygenase 1	M84719 Rat flavin-containing monooxygenase 1 (FMO-1) mRNA, complete cds /cds=(44,1842) /gb=M84719 /gi=204151 /ug=Rn.867 /len=2042	Microsomal.	Dimethylaniline monooxygenase [N-oxide forming] 1 (EC 1.14.13.8)(Hepa- tic flavin- containing monooxygenase 1) (FMO 1) (Dimethylaniline oxidase 1).
M86235	4015	S32426	4016	X78678	4017	P50053	4018	79	Ketohexokinas e	M86235 Rat ketohexokinase mRNA, complete cds /cds=(48,944) /gb=M86235 /gi=409148 /ug=Rn.9888 /len=1131		
M86564	4019	P06302	4020	A1859111	4021	XP_038 338		93.72	alpha- prothymosin	M86564 Rat alpha-prothymosin mRNA, complete cds /cds=(146,484) /gb=M86564 /gi=202965 /ug=Rn.817 /len=1162	Nuclear.	Prothymosin alpha.
M86912	4022	CAA44 183	4023	D13814	4024	P30556	4025		Rat angiotensin receptor (AT1) gene, single exon	M86912 exon RATAT1B Rat angiotensin receptor (AT1) gene, single exon		

Table 2.

M88751	4026	P54287	4027	X76556	4028	P54284	4029	93.76	Calcium channel subunit beta 3	M88751 Rat calcium channel beta subunit-III mRNA, complete cds /cds=(93,1547) /gb=M88751 /gi=203221 /ug=Rn.2808 /len=2525	"Dihydropyridine sensitive L-type, calcium channel beta-3 subunit(CAB3) (Voltage-dependent calcium channel beta-3 subunit)." "
M89953	4030	AAA40614	4031	NM_000864	4032	P28221	4033	83	5 - Hydroxytryptamine (serotonin) receptor 1D	M89953cds RAT5HT1D Rattus norvegicus 5-HT1D serotonin receptor gene, complete cds	
M90518	4034	P31423	4035	U92457	4036	Q14833	4037	90.07	Glutamate receptor, metabotropic 4	M90518 Rat metabotropic glutamate receptor (GLUR4) mRNA, complete cds /cds=(854,3592) /gb=M90518 /gi=205400 /ug=Rn.9882 /len=4488	Metabotropic glutamate receptor 4 precursor (mGluR4).
M90518	4038	P31423	4039	U92457	4040	Q14833	4041	90.07	Glutamate receptor, metabotropic 4	M90518 Rat metabotropic glutamate receptor (GLUR4) mRNA, complete cds /cds=(854,3592) /gb=M90518 /gi=205400 /ug=Rn.9882 /len=4488	Metabotropic glutamate receptor 4 precursor (mGluR4).
M91234	4042	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			VL30	M91234 Rat VL30 element mRNA /cds=UNKNOWN /gb=M91234 /gi=207871 /ug=Rn.18005 /len=1131	
M91466	4043	P29276	4044	M97759	4045	P29276	4046	86.92	A2b-adenosine receptor mRNA	M91466 Rattus norvegicus A2b-adenosine receptor mRNA, complete cds /cds=(107,1105) /gb=M91466 /gi=202587 /ug=Rn.10428 /len=1839	Adenosine A2b receptor.
M91590	4047	P29067	4048	AF108941	4049	P32121	4050	90.87	beta-arrestin2	M91590 Rat beta-arrestin2 mRNA, complete cds /cds=(191,1423) /gb=M91590 /gi=849888 /ug=Rn.25040 /len=1758	"Beta-arrestin 2 (Arrestin, beta 2)." "

Table 2.

M91590	4051	P29087	4052	AF108941	4053	P32121	4054	90.67	beta-arrestin2.	M91590 Rat beta-arrestin2 mRNA, complete cds /cds=(191,1423) /gb=M91590 /gi=949988 /ug=Rn.25040 /len=1758	"Beta-arrestin 2 (Arrestin, beta 2)." "
M91595	4055	AAA918 98	4056	XM_00283 6	4057	XP_002 836	4058	64	Insulin-like growth factor binding protein 2 gene, exon 1	M91595exon RATILGFBPA Rattus nonvegicus insulin-like growth factor binding protein-2 gene, exon 1	
M91595	4059	AAA918 98	4060	XM_00283 6	4061	XP_002 836	4062	64	Insulin-like growth factor binding protein 2 gene, exon 1	M91595exon RATILGFBPA Rattus nonvegicus insulin-like growth factor binding protein-2 gene, exon 1	
M91599	4063	AAA411 57	4064	NM_0020 11	4065	P22455	4066	83	Fibroblast growth factor receptor subtype 4	M91599mRNA RATFGFR4A Rat fibroblast growth factor receptor subtype 4 (FGFR4) mRNA, complete cds	
M91599	4067	AAA411 57	4068	Y13901	4069	CAA742 00	4070	83	fibroblast growth factor receptor subtype 4 (FGFR4)	M91599mRNA RATFGFR4A Rat fibroblast growth factor receptor subtype 4 (FGFR4) mRNA, complete cds	
M91599	4071	AAA411 57	4072	NM_0020 11	4073	P22455	4074	83	Fibroblast growth factor receptor subtype 4	M91599mRNA RATFGFR4A Rat fibroblast growth factor receptor subtype 4 (FGFR4) mRNA, complete cds	
M91599	4075	AAA411 57	4076	Y13901	4077	CAA742 00	4078	83	fibroblast growth factor receptor subtype 4 (FGFR4)	M91599mRNA RATFGFR4A Rat fibroblast growth factor receptor subtype 4 (FGFR4) mRNA, complete cds	



Table 2.

M91652	4079	P09606	4080	Y00387	4081	P15104	4082	92	Glutamine synthetase (glutamate-ammmonia ligase)	M91652completeSeq Rat glutamine synthetase (glrA) mRNA, complete cds /cds=UNKNOWN /gb=M91652 /gi=204348 /ug=Rn.2204 /len=2793	Cytoplasmic.	Glutamine synthetase (EC 6.3.1.2) (Glutamate-ammmonia ligase).
M91652	4083	P09606	4084	Y00387	4085	P15104	4086	92	Glutamine synthetase (glutamate-ammmonia ligase)	M91652completeSeq Rat glutamine synthetase (glrA) mRNA, complete cds /cds=UNKNOWN /gb=M91652 /gi=204348 /ug=Rn.2204 /len=2793	Cytoplasmic.	Glutamine synthetase (EC 6.3.1.2) (Glutamate-ammmonia ligase).
M91802	4087	P31246	4088	NM_008735	4089	NP_006728	4090	95.69	Homeobox protein (Hox 1.11)	M91802 Rattus norvegicus homeobox protein (Hox 1.11) mRNA, complete cds /cds=(194,1312) /gb=M91802 /gi=204641 /ug=Rn.11240 /len=1576	Nuclear.	Homeobox protein Hox-A2 (Hox-1.11).
M92059	4091	AAB31922	4092	AJ313463	4093	P00746	4094	64	Adipsin	M92059 RATADPSNP Rattus norvegicus adipsin mRNA sequence		
M92340	4095	P40190	4096	S80479	4097	P40189	4098	92.7	Rat (clones rLG08,14,25) Interleukin 6 signal transducer mRNA	M92340 RATGP130A Rat (clones rLG08,14,25) Interleukin 6 signal transducer mRNA sequence	Type I membrane protein.	Interleukin-6 receptor beta chain precursor (IL-6R-beta) (Interleukin6 signal transducer) (Membrane glycoprotein 130) (GP130).
M93017	4099	Q64566	4100	AF225981	4101	P98194	4102	91.44	alternatively spliced mRNA.	M93017 Rat alternatively spliced mRNA /cds=(178,2937) /gb=M93017 /gi=202861 /ug=Rn.5805 /len=4625	Integral membrane protein.	"Calcium-transporting ATPase type 2C, member 1 (EC 3.6.3.8) (ATPase2C1) (ATP-dependent Ca2+ pump PMR1)."

Table 2.

M93257	4103	CAA78 276	4104	XM_03379 9	XP_033 799	79	cathechol-O- methyltransferase	Z12651	M93257 RATSLLCOMT Rattus norvegicus cathechol-O-methyltransferase mRNA, 3 flank		
M93297	4105	AAA420 61	4106	NM_0002 74	P04181	86	ornithine aminotransferase		M93297cds RATROAT04 Rattus norvegicus ornithine aminotransferase (ROAT) gene, exon 7	Mitochondrial	"Methylmalonate-semialdehyde dehydrogenase [acylating], mitochondrial precursor (EC 1.2.1.27) (MMSDH)."
M93401	4109	Q02253	4110	AK026842	Q02252	95.08	Methylmalonate semialdehyde dehydrogenase		M93401 Rattus norvegicus methylmalonate semialdehyde dehydrogenase gene, complete cds /cds=(81,1688) /gb=M93401 /gi=205525 /ug=Rn.1645 /len=2059		
M93661	4113	Q9QW3 0	4114	AA725658	AAA363 77	91.95	Notch gene homolog 2, (Drosophila) [Rattus norvegicus].	NM_02435 8	M93661 Rat notch 2 mRNA /cds=UNKNOWN /gb=M93661 /gi=205753 /ug=Rn.13245 /len=8287	Type I membrane protein. Following proteolytical processing NICD is translocated to the nucleus.	Neurogenic locus notch homolog protein 2 precursor (Notch 2).
M93669	4117	P10362	4118	BC022509	P13521	83.93	Secretogranin II		M93669 Rat secretogranin II mRNA, complete cds /cds=(30,1889) /gb=M93669 /gi=206902 /ug=Rn.11392 /len=2289	Neuroendocrine and endocrine secretory granules.	Secretogranin II precursor (SGII) (Chromogranin C).
M94537	4121	Q01066	4122	U56976	Q01064	90.32	Cyclic nucleotide phosphodiesterase (CaM- PDE)		M94537 Rattus rattus cyclic nucleotide phosphodiesterase (CaM-PDE) mRNA, complete cds /cds=(74,1681) /gb=M94537 /gi=203268 /ug=Rn.9930 /len=1831	Cytoplasmic.	"Calcium/calmodulin-dependent 3',5'-cyclic nucleotide phosphodiesterase1B (EC 3.1.4.17) (Cam-PDE 1B) (83 kDa Cam-PDE)."

Table 2.

M94555	4125	P12760	4126	BC012808	4127	P48645	4128	82.45	Neuromedin U mRNA	M94555 Rat neuromedin U mRNA, complete cds /cds=(112,638) /gb=M94555 /gi=205745 /ug=Rn.9712 /len=707	Secreted.	Neuromedin U-23 precursor (NmU-23).
M95591	4129	Q02789	4130	S76822	4131	P37288	4132	86	Farnesyl diphosphate farnesyl transferase 1	M95591 RATSST Rattus rattus hepatic squalene synthetase mRNA, complete cds	Integral membrane protein. Endoplasmic reticulum.	Farnesyl-diphosphate farnesyltransferase (EC 2.5.1.21) (Squalenesynthetase) (SQS) (SS) (FPP:FPP farnesyltransferase).
M95591	4133	Q02789	4134	S76822	4135	P37288	4136	86	Farnesyl diphosphate farnesyl transferase 1	M95591 RATSST Rattus rattus hepatic squalene synthetase mRNA, complete cds	Integral membrane protein. Endoplasmic reticulum.	Farnesyl-diphosphate farnesyltransferase (EC 2.5.1.21) (Squalenesynthetase) (SQS) (SS) (FPP:FPP farnesyltransferase).
M95591	4137	Q02789	4138	S76822	4139	P37288	4140	86	Farnesyl diphosphate farnesyl transferase 1	M95591 RATSST Rattus rattus hepatic squalene synthetase mRNA, complete cds	Integral membrane protein. Endoplasmic reticulum.	Farnesyl-diphosphate farnesyltransferase (EC 2.5.1.21) (Squalenesynthetase) (SQS) (SS) (FPP:FPP farnesyltransferase).

Table 2.

M95591	4141	Q02769	4142	S76822	4143	P37268	4144	86	Farnesyl diphosphate farnesyl transferase 1	M95591 RATSST Rattus rattus hepatic squalene synthetase mRNA, complete cds	Integral membrane protein. Endoplasmic reticulum.	Farnesyl-diphosphate farnesyltransferase (EC 2.5.1.21) (Squalenesynthetase) (SQS) (SS) (FPP:FPP farnesyltransferase).
M95768	4145	Q01460	4146	NM_004388	4147	Q01459	4148	82	di-N-acetylchitinobiase	M95768 Rattus norvegicus di-N-acetylchitinobiase mRNA, complete cds /cds=(0,1103) /gb=M95768 /gi=203452 /ug=Rn.11199 /len=1616	Lysosomal.	di-N-acetylchitinobiase precursor (EC 3.2.1.-).
M96375	4149	Q63373	4150	AF064842	4151	P58400	4152	94.29	Non-processed neurexin I-beta	M96375 Rattus norvegicus non-processed neurexin I-beta mRNA, complete cds /cds=(822,2228) /gb=M96375 /gi=205712 /ug=Rn.8930 /len=2441	Type I membrane protein.	Neurexin 1-beta precursor (Neurexin I-beta).
M96601	4153	P31643	4154	XM_042939	4155	XP_042939	4156	87	Taurine transporter	M96601 Rattus norvegicus taurine transporter mRNA, complete cds /cds=(126,1991) /gb=M96601 /gi=207541 /ug=Rn.9968 /len=2476	Integral membrane protein.	Sodium- and chloride-dependent taurine transporter.
M96626	4157	Q64568	4158	U15689	4159	Q16720	4160	95.63	RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds	M96626 RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds /cds=(0,346) /gb=M96626 /gi=203212 /ug=Rn.11053 /len=609	Integral membrane protein.	Plasma membrane calcium-transporting ATPase 3 (EC 3.6.3.8) (PMCA3)(Plasma membrane calcium pump isoform 3) (Plasma membrane calciumATPase isoform 3).

Table 2.

M96626	4161	Q64568	4162	U15689	4163	Q16720	4164	95.63	RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds	M96626 RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds /cds=(0,346) /gb=M96626 /gi=203212 /ug=Rn.11053 /len=609	Integral membrane protein.	Plasma membrane calcium-transporting ATPase 3 (EC 3.6.3.8) (PMCA3)(Plasma membrane calcium pump isoform 3) (Plasma membrane calciumATPase isoform 3).
M96626	4165	Q64568	4166	U15689	4167	Q16720	4168	95.63	RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds	M96626 RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds /cds=(0,346) /gb=M96626 /gi=203212 /ug=Rn.11053 /len=609	Integral membrane protein.	Plasma membrane calcium-transporting ATPase 3 (EC 3.6.3.8) (PMCA3)(Plasma membrane calcium pump isoform 3) (Plasma membrane calciumATPase isoform 3).

Table 2.

M96626	4169	Q64568	4170	U15689	4171	Q16720	4172	96.63	RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds	M96626 RAT plasma membrane CA2+-ATPase isoform 3 mRNA, partial cds /cds=(0,346) /gb=M96626 /gi=203212 /ug=Rn.11053 /len=609	Integral membrane protein.	Plasma membrane calcium-transporting ATPase 3 (EC 3.6.3.8) (PMCA3)(Plasma membrane calcium pump isoform 3) (Plasma membrane calciumATPase isoform 3).
M96853	4173	P31016	4174	AF156495	4175	AAD56173	4176	99	Rat postsynaptic density protein (PSD-95), homologue of discs-large tumor suppressor protein	M96853 Rat postsynaptic density protein (PSD-95), homologue of discs-large tumor suppressor protein mRNA, complete cds /cds=(57,2231) /gb=M96853 /gi=206454 /ug=Rn.9765 /len=3086	CONCENTRATED AT SYNAPTIC JUNCTIONS PRIMARILY ON THE PRESYNAPTIC SIDE (WAS ORIGINALLY THOUGHT TO BE POSTSYNAPTIC).	'Presynaptic density protein 95 (PSD-95) (Presynaptic protein SAP90)(Synapse-associated protein 90) (Discs, large homolog 4)."

Table 2.

M98853	4177	P31016	4178	AF156495	4179	AAD56173	4180	99	Rat postsynaptic density protein (PSD-95), homologue of discs-large tumor suppressor protein	M98853 Rat postsynaptic density protein (PSD-95), homologue of discs-large tumor suppressor protein mRNA, complete cds /gb=M98853 /gi=208454 /ug=Rn.9765 /len=3068	CONCENTRATED AT SYNAPTIC JUNCTIONS PRIMARILY ON THE PRESYNAPTIC SIDE (WAS ORIGINALLY THOUGHT TO BE POSTSYNAPTIC).	"Presynaptic density protein 95 (PSD-95) (Presynaptic protein SAP90)(Synapsin e-associated protein 90) (Discs, large homologue 4)."
M99567	4181	A45493		NM_000932	4182	Q01970	4183	87.66	Rattus norvegicus phospholipase C beta-3 mRNA, partial cds	M99567 RATPHOCBE Rat phospholipase C beta-3 mRNA		
M99567	4184	A45493		NM_000932	4185	Q01970	4186	87.66	Rattus norvegicus phospholipase C beta-3 mRNA, partial cds	M99567 RATPHOCBE Rat phospholipase C beta-3 mRNA		
M99567	4187	A45493		NM_000932	4188	Q01970	4189	87.66	Rattus norvegicus phospholipase C beta-3 mRNA, partial cds	M99567 RATPHOCBE Rat phospholipase C beta-3 mRNA		
AA684919	4190	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA684919 EST105769 Rattus norvegicus cDNA, 3' end /clone=RPCAR53 /clone_end=3 /gb=AA684919 /gi=2671617 /ug=Rn.14682 /len=301		
AA685221	4191	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA685221 EST106628 Rattus norvegicus cDNA, 3' end /clone=RPCBE53 /clone_end=3 /gb=AA685221 /gi=2671819 /ug=Rn.14676 /len=325		

Table 2.

AA6859 74	4192	BAR251 23	4193	BC013949	4194	AAH139 49	4195	88.5	Hypothetical Protein	BC005598	rc_AA685974 EST108806 Rattus norvegicus cDNA, 3' end /clone=RPNAH48 /clone_end=3 /gb=AA685974 /gi=2872572 /ug=Rn.14888 /len=371	
AA6861 64	4196	AAH05 598	4197	AF064603	4198	XP_006 135	4199	92.14	Mus musculus, Similar to dendritic cell protein, clone MGC:11741 IMAGE:39693 35, mRNA, complete cds		rc_AA686164 EST109401 Rattus norvegicus cDNA, 3' end /clone=RPNAH24 /clone_end=3 /gb=AA686164 /gi=2872762 /ug=Rn.3390 /len=373	
AA7892 79	4200	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Mus musculus adult male heart cDNA, RIKEN		rc_AA789279 EST188776 Rattus norvegicus cDNA, 3' end /clone=RHEAA08 /clone_end=3 /gb=AA789279 /gi=2862234 /ug=Rn.4182 /len=619	
AA7892 79	4201	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Mus musculus adult male heart cDNA, RIKEN		rc_AA789279 EST188776 Rattus norvegicus cDNA, 3' end /clone=RHEAA08 /clone_end=3 /gb=AA789279 /gi=2862234 /ug=Rn.4182 /len=619	
AA7892 99	4202	P39069	4203	AB021871	4204	P00568	4205	88.94	Adenylate kinase 1		rc_AA789299 EST188786 Rattus norvegicus cDNA, 3' end /clone=RHEAA18 /clone_end=3 /gb=AA789299 /gi=2862254 /ug=Rn.8563 /len=506	Cytoplasmic.  Adenylate kinase isoenzyme 1 (EC 2.7.4.3) (ATP-AMP transphosphoryl ase)(AK1) (Myokinase) (Fragment).
AA7893 23	4206	NP_062 422	4207	X07743	4208	P08567	4209	86.54	pleckstrin (Plek)	NM_01954 9	rc_AA789323 EST188820 Rattus norvegicus cDNA, 3' end /clone=RHEAA31 /clone_end=3 /gb=AA789323 /gi=2862278 /ug=Rn.6178 /len=328	



Table 2.

AA7893 28	4210	No Rat Protein Found.	4213	No human homolog found.	4214	No Human Protein Found.	4215	91.76	EST (not recognized)	AF148638	rc_AA789328 EST188825 Rattus norvegicus cDNA, 3' end /clone=RHEAA34 /clone_end=3 /gb=AA789328 /gi=2862283 /ug=Rn.757 /len=637
AA7893 28	4211	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA789328 EST188825 Rattus norvegicus cDNA, 3' end /clone=RHEAA34 /clone_end=3 /gb=AA789328 /gi=2862283 /ug=Rn.757 /len=637
AA7893 30	4212	AAK581 16	4213	NM_0159 46	4214	XP_032 895	4215	91.76	Pelota		rc_AA789330 EST188827 Rattus norvegicus cDNA, 3' end /clone=RHEAA35 /clone_end=3 /gb=AA789330 /gi=2862285 /ug=Rn.3842 /len=617
AA7893 96	4216	No Rat Protein Found.		AF043896	4217	No Human Protein Found.		97	Mus musculus, clone IMAGE:35917 05		rc_AA789396 EST188893 Rattus norvegicus cDNA, 3' end /clone=RHEAA74 /clone_end=3 /gb=AA789396 /gi=2862351 /ug=Rn.263 /len=637
AA7893 96	4218	No Rat Protein Found.		AF043896	4219	No Human Protein Found.		97	Mus musculus, clone IMAGE:35917 05		rc_AA789396 EST188893 Rattus norvegicus cDNA, 3' end /clone=RHEAA74 /clone_end=3 /gb=AA789396 /gi=2862351 /ug=Rn.263 /len=637
AA7894 06	4220	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA789406 EST188903 Rattus norvegicus cDNA, 3' end /clone=RHEAA79 /clone_end=3 /gb=AA789406 /gi=2862361 /ug=Rn.90 /len=591
AA7894 10	4221	No Rat Protein Found.		BC012458	4222	No Human Protein Found.		91.82	Homo sapiens, clone IMAGE:38609 08		rc_AA789410 EST188907 Rattus norvegicus cDNA, 3' end /clone=RHEAA81 /clone_end=3 /gb=AA789410 /gi=2862365 /ug=Rn.3326 /len=612
AA7894 10	4223	No Rat Protein Found.		BC012458	4224	No Human Protein Found.		91.82	Homo sapiens, clone IMAGE:38609 08		rc_AA789410 EST188907 Rattus norvegicus cDNA, 3' end /clone=RHEAA81 /clone_end=3 /gb=AA789410 /gi=2862365 /ug=Rn.3326 /len=612

Table 2.

AA7994 21	4225	KIRTCF	4226	X65293	4227	Q02156	4228	96	ESTs, Highly similar to PROTEIN KINASE C, EPSILON TYPE [R.norvegicus]		rc_AA799421 EST188918 Rattus norvegicus cDNA, 3' end /clone=RHEA87 /clone_end=3 /gb=AA799421 /gi=2862376 /ug=Rn.18851 /len=570
AB0466 41	4229	BAB408 46	4230	NM_0140 78	4231	NP_054 797	4232	88.83	Mus musculus MRPL13 mRNA for mitochondrial ribosomal protein L13	AA799440	rc_AA799440 EST188937 Rattus norvegicus cDNA, 3' end /clone=RHEAB09 /clone_end=3 /gb=AA799440 /gi=2862385 /ug=Rn.6185 /len=705
AA7994 42	4233	No Rat Protein Found.		NM_0184 80	4234	No Human Protein Found.		82.89	Mus musculus 18 days embryo cDNA, RIKEN		rc_AA799442 EST188939 Rattus norvegicus cDNA, 3' end /clone=RHEAB11 /clone_end=3 /gb=AA799442 /gi=2862397 /ug=Rn.3826 /len=649
AA7994 42	4235	No Rat Protein Found.		NM_0184 80	4236	No Human Protein Found.		82.89	Mus musculus 18 days embryo cDNA, RIKEN		rc_AA799442 EST188939 Rattus norvegicus cDNA, 3' end /clone=RHEAB11 /clone_end=3 /gb=AA799442 /gi=2862397 /ug=Rn.3826 /len=649
AA7994 42	4237	No Rat Protein Found.		NM_0184 80	4238	AAF676 58	4239	82.89	EST (not recognized for rat)		rc_AA799442 EST188939 Rattus norvegicus cDNA, 3' end /clone=RHEAB11 /clone_end=3 /gb=AA799442 /gi=2862397 /ug=Rn.3826 /len=649
AA7994 42	4240	No Rat Protein Found.		NM_0184 80	4241	No Human Protein Found.		82.89	Mus musculus 18 days embryo cDNA, RIKEN		rc_AA799442 EST188939 Rattus norvegicus cDNA, 3' end /clone=RHEAB11 /clone_end=3 /gb=AA799442 /gi=2862397 /ug=Rn.3826 /len=649
AA7994 42	4242	No Rat Protein Found.		NM_0184 80	4243	No Human Protein Found.		82.89	Mus musculus 18 days embryo cDNA, RIKEN		rc_AA799442 EST188939 Rattus norvegicus cDNA, 3' end /clone=RHEAB11 /clone_end=3 /gb=AA799442 /gi=2862397 /ug=Rn.3826 /len=649

Table 2.

AA7894 42	4244	No Rat Protein Found.		NIM_0184 80	4245	AAF876 58	4248	82.89	EST (not recognized for rat)		rc_AA789442 EST188939 Rattus norvegicus cDNA, 3' end /clone=RHEAB11 /clone_end=3 /gb=AA789442 /gi=2862397 /ug=Rn.3826 /len=649
AA7894 48	4247	No Rat Protein Found.		BF109813	4248	P13726	4249	96.15	EST(not recognised)		rc_AA789448 EST188945 Rattus norvegicus cDNA, 3' end /clone=RHEAB18 /clone_end=3 /gb=AA789448 /gi=2862403 /ug=Rn.8296 /len=615
AA7894 48	4250	No Rat Protein Found.		BF109813	4251	P13726	4252	96.15	EST (not recognised)		rc_AA789448 EST188945 Rattus norvegicus cDNA, 3' end /clone=RHEAB18 /clone_end=3 /gb=AA789448 /gi=2862403 /ug=Rn.8296 /len=615
AA7894 49	4253	NP_032 698	4254	U77456	4255	Q89733	4256	87.5	Mus musculus nucleosome assembly protein 1-like 4 (Nap114)	NM_00867 2	rc_AA789449 EST188946 Rattus norvegicus cDNA, 3' end /clone=RHEAB19 /clone_end=3 /gb=AA789449 /gi=2862404 /ug=Rn.3286 /len=553
AA7894 49	4257	NP_032 698	4258	U77456	4259	Q89733	4260	87.5	Mus musculus nucleosome assembly protein 1-like 4 (Nap114)	NM_00867 2	rc_AA789449 EST188946 Rattus norvegicus cDNA, 3' end /clone=RHEAB19 /clone_end=3 /gb=AA789449 /gi=2862404 /ug=Rn.3286 /len=553
AA7894 49	4261	NP_032 698	4262	U77456	4263	Q89733	4264	87.5	Mus musculus nucleosome assembly protein 1-like 4 (Nap114)	NM_00867 2	rc_AA789449 EST188946 Rattus norvegicus cDNA, 3' end /clone=RHEAB19 /clone_end=3 /gb=AA789449 /gi=2862404 /ug=Rn.3286 /len=553
AA7894 65	4265	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			long interspersed repeated element LINE		rc_AA789465 EST188962 Rattus norvegicus cDNA, 3' end /clone=RHEAB38 /clone_end=3 /gb=AA789465 /gi=2862420 /ug=Rn.6188 /len=644

Table 2.

AA7994 67	4266	No Rat Protein Found.	4269	No human homolog found.		No Human Protein Found.		EST (not recognized)	AA789474	rc_AA789467 EST188964 Rattus norvegicus cDNA, 3' end /clone=RHEAB38 /clone_end=3 /gb=AA789467 /gi=2862422 /ug=Rn.4036 /len=568
AA7894 73	4267	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA789473 EST188970 Rattus norvegicus cDNA, 3' end /clone=RHEAB44 /clone_end=3 /gb=AA789473 /gi=2862428 /ug=Rn.2828 /len=577
AA7894 74	4268	BC0056 20	4269	AA643228	4270	BC0010 06	4271	97.16	AA789474	rc_AA789474 EST188971 Rattus norvegicus cDNA, 3' end /clone=RHEAB45 /clone_end=3 /gb=AA789474 /gi=2862428 /ug=Rn.1413 /len=687
AA7894 75	4272	No Rat Protein Found.		BI768995	4273	No Human Protein Found.		88.74		rc_AA789475 EST188972 Rattus norvegicus cDNA, 3' end /clone=RHEAB48 /clone_end=3 /gb=AA789475 /gi=2862430 /ug=Rn.4281 /len=633
AA7894 79	4274	No Rat Protein Found.		U65579	4275	O00217	4276	92.96		rc_AA789479 EST188976 Rattus norvegicus cDNA, 3' end /clone=RHEAB52 /clone_end=3 /gb=AA789479 /gi=2862434 /ug=Rn.3373 /len=681
AA7894 79	4277	No Rat Protein Found.		U65579	4278	O00217	4279	92.96		rc_AA789479 EST188976 Rattus norvegicus cDNA, 3' end /clone=RHEAB52 /clone_end=3 /gb=AA789479 /gi=2862434 /ug=Rn.3373 /len=681
AA7894 81	4280	NP_068 676	4281	AF089032	4282	XP_051 181	4283	97.06	NM_02187 6	rc_AA789481 EST188978 Rattus norvegicus cDNA, 3' end /clone=RHEAB54 /clone_end=3 /gb=AA789481 /gi=2862436 /ug=Rn.3939 /len=673

Table 2.

AA7894 87	4284	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST(not recognised)	rc_AA799487 EST188984 Rattus norvegicus cDNA, 3' end /clone=RHEAB83 /clone_end=3 /gb=AA799487 /gi=2862442 /ug=Rn.8192 /len=737
AA7894 88	4285	No Rat Protein Found.		AK026159	No Human Protein Found.	4286	80.53	rc_AA799488 EST188985 Rattus norvegicus cDNA, 3' end /clone=RHEAB84 /clone_end=3 /gb=AA799488 /gi=2862443 /ug=Rn.22211 /len=654
AA7894 97	4287	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		Mus musculus 18 days embryo cDNA, RIKEN	rc_AA799497 EST188994 Rattus norvegicus cDNA, 3' end /clone=RHEAB74 /clone_end=3 /gb=AA799497 /gi=2862452 /ug=Rn.3793 /len=513
AA7894 97	4288	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		Mus musculus 18 days embryo cDNA, RIKEN	rc_AA799497 EST188994 Rattus norvegicus cDNA, 3' end /clone=RHEAB74 /clone_end=3 /gb=AA799497 /gi=2862452 /ug=Rn.3793 /len=513
AA7894 99	4289	NP_079 873	4280	AF047183	O43676	4281	87.14	rc_AA799499 EST188998 Rattus norvegicus cDNA, 3' end /clone=RHEAB77 /clone_end=3 /gb=AA799499 /gi=2862454 /ug=Rn.17057 /len=565
AA7895 01	4293	Q83382	4294	AA083919	XP_044 022	4295	96.8	rc_AA799501 EST188998 Rattus norvegicus cDNA, 3' end /clone=RHEAB79 /clone_end=3 /gb=AA799501 /gi=2862456 /ug=Rn.90 /len=777
Mitochondrial inner membrane; matrix side.								NADH- ubiquinone oxidoreductase 13 kDa-B subunit (EC 1.6.5.3)(EC 1.6.99.3) (Complex I- 13Kd-B) (Ci- 13Kd-B) (Complex I subunit B13).

Table 2.

AA7895 07	4298	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus 18 days embryo cDNA, RIKEN full- length enriched library, clone:1190010 C13	rc_AA789507 EST189004 Rattus norvegicus cDNA, 3' end /clone=RHEAB87 /clone_end=3 /gb=AA789507 /gi=2862462 /ug=Rn.1821 /len=707
AA7895 11	4297	No Rat Protein Found.	AK026373	4298 AAC090 39	99.24 Homo sapiens BAC clone CTB-119C2 from 7p15, complete sequence (similar to NFE2-related transcription factors)	rc_AA789511 EST189008 Rattus norvegicus cDNA, 3' end /clone=RHEAB95 /clone_end=3 /gb=AA789511 /gi=2862468 /ug=Rn.3624 /len=731
AA7895 11	4299	No Rat Protein Found.	AK026373	4300 AAC090 39	99.24 Homo sapiens BAC clone CTB-119C2 from 7p15, complete sequence (similar to NFE2-related transcription factors)	rc_AA789511 EST189008 Rattus norvegicus cDNA, 3' end /clone=RHEAB95 /clone_end=3 /gb=AA789511 /gi=2862468 /ug=Rn.3624 /len=731
AA7895 15	4301	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	rc_AA789515 EST189012 Rattus norvegicus cDNA, 3' end /clone=RHEAC03 /clone_end=3 /gb=AA789515 /gi=2862470 /ug=Rn.4063 /len=601

Table 2.

AA7995 25	4302	NP_079 634	4303	L04490	4304	Q18785	4305	83	ESTs: Moderately similar to NUEM_HUMA N NADH- UBIQUINONE OXIDOREDU CTASE 39 KDA SUBUNIT PRECURSOR [H.sapiens]	BC013617	tc_AA799525 EST189022 Rattus norvegicus cDNA, 3 end /clone=RHEAC13 /clone_end=3 /gb=AA799525 /gi=2862480 /ug=Rn.1099 /len=573
AA7995 31	4306	AAH13 817	4307	AK000759	4308	XP_047 594	4309	90.07	Mus musculus, Similar to hypothetical protein, clone MGC:18941	BC013617	tc_AA799531 EST189028 Rattus norvegicus cDNA, 3 end /clone=RHEAC22 /clone_end=3 /gb=AA799531 /gi=2862486 /ug=Rn.6198 /len=570
AA7995 31	4310	AAH13 617	4311	AK000759	4312	XP_047 594	4313	90.07	Mus musculus, Similar to hypothetical protein, clone MGC:18941	BC013617	tc_AA799531 EST189028 Rattus norvegicus cDNA, 3 end /clone=RHEAC22 /clone_end=3 /gb=AA799531 /gi=2862486 /ug=Rn.6198 /len=570
AA7995 34	4314	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		tc_AA799534 EST189031 Rattus norvegicus cDNA, 3 end /clone=RHEAC25 /clone_end=3 /gb=AA799534 /gi=2862489 /ug=Rn.8291 /len=556
AA7995 37	4315	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Mus musculus 18 days embryo cDNA, RIKEN		tc_AA799537 EST189034 Rattus norvegicus cDNA, 3 end /clone=RHEAC28 /clone_end=3 /gb=AA799537 /gi=2862492 /ug=Rn.3798 /len=577

Table 2.

AA7995 39	4316	No Rat Protein Found.	AK000931	4317	NP_005 997	4318	94.31	ESTs, Weakly similar to 2118318A promyelocyte leukemia Zn finger protein [M.musculus]	rc_AA799539 EST189036 Rattus norvegicus cDNA, 3' end /clone=RHEAC31 /clone_end=3 /gb=AA799539 /gl=2862494 /ug=Rn.6200 /len=615
AA7995 42	4319	No Rat Protein Found.	AJ132695	4320	CAA107 33	4321		rac1 gene	rc_AA799542 EST189039 Rattus norvegicus cDNA, 3' end /clone=RHEAC34 /clone_end=3 /gb=AA799542 /gl=2862497 /ug=Rn.980 /len=553
AA7995 50	4322	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			Mus musculus RIKEN cDNA 9130413122 gene	rc_AA799550 EST189047 Rattus norvegicus cDNA, 3' end /clone=RHEAC44 /clone_end=3 /gb=AA799550 /gl=2862505 /ug=Rn.3393 /len=623
AA7995 51	4323	S08147	4324	4325	Q8BZG1	4326	95.39	ESTs, Weakly similar to S08147 GTP- binding protein rab1B - rat [R.norvegicus]	rc_AA799551 EST189048 Rattus norvegicus cDNA, 3' end /clone=RHEAC45 /clone_end=3 /gb=AA799551 /gl=2862508 /ug=Rn.11546 /len=616
AA7995 60	4327	No Rat Protein Found.	AK057843	4328	Q8UN36	4329	92.31	Mus musculus 18 days embryo cDNA, RIKEN	rc_AA799560 EST189057 Rattus norvegicus cDNA, 3' end /clone=RHEAC55 /clone_end=3 /gb=AA799560 /gl=2862515 /ug=Rn.3407 /len=604
AA7995 66	4330	AAK526 70	4331	4332	BC0093 96	4333	93.58	MMS19	rc_AA799566 EST189063 Rattus norvegicus cDNA, 3' end /clone=RHEAC81 /clone_end=3 /gb=AA799566 /gl=2862521 /ug=Rn.3521 /len=595



Table 2.

AA7995 66	4334	AAK526 70	4335	AK025496	4336	BC0093 96	4337	93.59	MMS19	AF319949	rc_AA799566 EST189063 Rattus norvegicus cDNA, 3' end /clone=RHEAC61 /clone_end=3 /gb=AA799566 /gl=2862521 /ug=Rn.3521 /len=595		
AA7995 66	4338	AAK526 70	4339	AK025496	4340	BC0093 96	4341	93.59	MMS19	AF319949	rc_AA799566 EST189063 Rattus norvegicus cDNA, 3' end /clone=RHEAC61 /clone_end=3 /gb=AA799566 /gl=2862521 /ug=Rn.3521 /len=595		
AA7995 66	4342	AAK528 70	4343	AK025496	4344	BC0093 96	4345	93.59	MMS19	AF319949	rc_AA799566 EST189063 Rattus norvegicus cDNA, 3' end /clone=RHEAC61 /clone_end=3 /gb=AA799566 /gl=2862521 /ug=Rn.3521 /len=595		
AA7995 66	4346	AAK528 70	4347	AK025496	4348	BC0093 96	4349	93.59	MMS19	AF319949	rc_AA799566 EST189063 Rattus norvegicus cDNA, 3' end /clone=RHEAC61 /clone_end=3 /gb=AA799566 /gl=2862521 /ug=Rn.3521 /len=595		
AA7995 66	4350	AAK528 70	4351	AK025496	4352	BC0093 96	4353	93.59	MMS19	AF319949	rc_AA799566 EST189063 Rattus norvegicus cDNA, 3' end /clone=RHEAC61 /clone_end=3 /gb=AA799566 /gl=2862521 /ug=Rn.3521 /len=595		
AA7995 75	4354	P14925	4355	AF035320	4356	P19021	4357	91.74	Peptidylglycine alpha- amidating monooxygenase	X59689	rc_AA799575 EST189072 Rattus norvegicus cDNA, 3' end /clone=RHEAC71 /clone_end=3 /gb=AA799575 /gl=2862530 /ug=Rn.1121 /len=588	Secretory granules.	Peptidyl-glycine alpha-amidating monooxygenase precursor(EC 1.14.17.3) (PAM).
AA7995 93	4358	AAH08 517	4359	NM_0033 44	4360	P37286	4361	84	ubiquitin- conjugating enzyme E2H (homologous to yeast UBC8)	BC008517	rc_AA799593 EST189090 Rattus norvegicus cDNA, 3' end /clone=RHEAC89 /clone_end=3 /gb=AA799593 /gl=2862548 /ug=Rn.18453 /len=523		

Table 2.

AA799600	4362	P43035	4363	L13398	4364	S36113	33	ESTs, Weakly similar to LIS1 MOUSE PLATELET-ACTIVATING FACTOR ACETYLHYDROLASE IB ALPHA SUBUNIT [R.norvegicus]	rc_AA799600 EST189097 Rattus norvegicus cDNA, 3' end /clone=RHEAC96 /clone_end=3 /gb=AA799600 /gi=2882555 /ug=Rn.3774 /len=591
AA799601	4365	No Rat Protein Found.	4365	AA731950	4365	No Human Protein Found.	97.92	Mus musculus 11 days pregnant adult female ovary and uterus cDNA, RIKEN full-length enriched library, clone:5033430 A12	rc_AA799601 EST189098 Rattus norvegicus cDNA, 3' end /clone=RHEAD03 /clone_end=3 /gb=AA799601 /gi=2882556 /ug=Rn.24537 /len=687
AA799609	4367	No Rat Protein Found.	4367	XM_012017	XP_012017		97	ESTs, Moderately similar to T43443 hypothetical protein DKFZp434A2315.1 [H.sapiens]	rc_AA799609 EST189108 Rattus norvegicus cDNA, 3' end /clone=RHEAD12 /clone_end=3 /gb=AA799609 /gi=2882564 /ug=Rn.6210 /len=683

Table 2.

AA7996 09	4368	No Rat Protein Found.	XM_012017	XP_012017	97	ESTs, Moderately similar to T43443 hypothetical protein DKFZp434A2 315.1 [H.sapiens]	U04308	rc_AA799609 EST189106 Rattus norvegicus cDNA, 3' end /clone=RHEAD12 /clone_end=3 /gb=AA799609 /gi=2862564 /ug=Rn.8210 /len=663	Ubiquitin- conjugating enzyme E2 B (EC 6.3.2.19) (Ubiquitin- proteinligase B) (Ubiquitin carrier protein B) (HR6B) (HHR6B) (E2-17 kDa).
AA7996 12	4369	P23567	4370	4371	94.38	Rattus norvegicus 14 kDa ubiquitin conjugating enzyme gene, exon 6, partial cds	U04308	rc_AA799612 EST189109 Rattus norvegicus cDNA, 3' end /clone=RHEAD15 /clone_end=3 /gb=AA799612 /gi=2862567 /ug=Rn.3530 /len=708	
AA7996 33	4373	BAB287 92	4374	XP_051263	86.84	Homo sapiens hypothetical protein MGC13016		rc_AA799633 EST189130 Rattus norvegicus cDNA, 3' end /clone=RHEAD41 /clone_end=3 /gb=AA799633 /gi=2862588 /ug=Rn.8212 /len=539	
AA7996 37	4377	AAD13 197	4378	P48059	95.65	ESTs, Weakly similar to A55071 hydrogen peroxide- inducible protein hlo-5 - mouse	AF095585	rc_AA799637 EST189134 Rattus norvegicus cDNA, 3' end /clone=RHEAD45 /clone_end=3 /gb=AA799637 /gi=2862592 /ug=Rn.25425 /len=571	

Table 2.

AA7986 37	4381	AAD13 197	4382	U09284	4383	P48059	4384	95.65	ESTs, Weakly similar to A55071 hydrogen peroxide- inducible protein hlc-5 - mouse	AF095595	rc_AA798637 EST189134 Rattus norvegicus cDNA, 3' end /clone=RHEAD45 /clone_end=3 /gb=AA798637 /gl=2862592 /ug=Rn.25425 /len=571		
AA7986 41	4385	NP_036 162	4386	NM_0068 11	4387	NP_006 802	4388	87.72	Mus musculus tumor differentially expressed 1 (T'de1)	NM_01203 2	rc_AA798641 EST189138 Rattus norvegicus cDNA, 3' end /clone=RHEAD50 /clone_end=3 /gb=AA798641 /gl=2862596 /ug=Rn.3775 /len=665		
AA7986 41	4389	NP_036 162	4390	NM_0068 11	4391	NP_006 802	4392	87.72	Mus musculus tumor differentially expressed 1 (T'de1)	NM_01203 2	rc_AA798641 EST189138 Rattus norvegicus cDNA, 3' end /clone=RHEAD50 /clone_end=3 /gb=AA798641 /gl=2862596 /ug=Rn.3775 /len=665		
AA7986 45	4393	O08589	4394	U72245	4395	O00168	4396	61	FXVD domain- containing ion transport regulator 1	NM_03164 8	rc_AA798645 EST189142 Rattus norvegicus cDNA, 3' end /clone=RHEAD54 /clone_end=3 /gb=AA798645 /gl=2862600 /ug=Rn.3828 /len=591	Type I membrane protein.	Phospholipase precursor (FXVD domain- containing ion transportregulat or 1).
AA7986 45	4397	O08589	4398	U72245	4399	O00168	4400	61	FXVD domain- containing ion transport regulator 1	NM_03164 8	rc_AA798645 EST189142 Rattus norvegicus cDNA, 3' end /clone=RHEAD54 /clone_end=3 /gb=AA798645 /gl=2862600 /ug=Rn.3828 /len=591	Type I membrane protein.	Phospholipase precursor (FXVD domain- containing ion transportregulat or 1).
AA7986 50	4401	NP_071 985	4402	NM_0067 93	4403	P30048	4404	84	Peroxiredoxin 3	NM_02254 0	rc_AA798650 EST189147 Rattus norvegicus cDNA, 3' end /clone=RHEAD59 /clone_end=3 /gb=AA798650 /gl=2862605 /ug=Rn.2011 /len=593		

Table 2.

AA7996 54	4405	AAH10 776	4406	AL137631	4407	XP_038 053	87.73	Mus musculus, Similar to f- box and WD- box domain protein 5, clone MGC:18679 IMAGE:42115 92, mRNA, complete cds	BC010776	rc_AA799654 EST189151 Rattus norvegicus cDNA, 3' end /clone=RHEAD63 /clone_end=3 /gb=AA799654 /gl=2862609 /ug=Rn.8165 /len=520
AA7996 54	4408	AAH10 776	4409	AL137631	4410	XP_038 053	87.73	Mus musculus, Similar to f- box and WD- box domain protein 5, clone MGC:18679 IMAGE:42115 92, mRNA, complete cds	BC010776	rc_AA799654 EST189151 Rattus norvegicus cDNA, 3' end /clone=RHEAD63 /clone_end=3 /gb=AA799654 /gl=2862609 /ug=Rn.8165 /len=520
AA7996 56	4411	No Rat Protein Found.		Z68747	4412	No Human Protein Found.	87.97	Mus musculus 10 days embryo cDNA, RIKEN		rc_AA799656 EST189153 Rattus norvegicus cDNA, 3' end /clone=RHEAD65 /clone_end=3 /gb=AA799656 /gl=2862611 /ug=Rn.22173 /len=610
AA7996 56	4414	CAA97 087	4415	Z68747	4416	CAA929 51	87.97	Imogen 44	Z46968	rc_AA799656 EST189153 Rattus norvegicus cDNA, 3' end /clone=RHEAD65 /clone_end=3 /gb=AA799656 /gl=2862611 /ug=Rn.22173 /len=610
AA7996 56	4418	No Rat Protein Found.		Z68747	4419	No Human Protein Found.	87.97	Mus musculus 10 days embryo cDNA, RIKEN		rc_AA799656 EST189153 Rattus norvegicus cDNA, 3' end /clone=RHEAD65 /clone_end=3 /gb=AA799656 /gl=2862611 /ug=Rn.22173 /len=610

Table 2.

AA7986 56	4421	CAA87 087	4422	Z68747	4423	CAA929 51	4424	87.97	Imogen 44	Z46966	rc_AA798656 EST189153 Rattus norvegicus cDNA, 3' end /clone=RHEAD65 /clone_end=3 /gb=AA798656 /gi=2862611 /ug=Rn.22173 /len=610
AA7986 57	4425	No Rat Protein Found.		NM_0066 83	4426	No Human Protein Found.		86.3	EST not recognized		rc_AA798657 EST189154 Rattus norvegicus cDNA, 3' end /clone=RHEAD66 /clone_end=3 /gb=AA798657 /gi=2862612 /ug=Rn.6214 /len=502
AA7988 63	4427	CAA52 612	4428	BG698621	4429	No Human Protein Found.		88.65	M.musculus T10 mRNA	X74504	rc_AA798663 EST189160 Rattus norvegicus cDNA, 3' end /clone=RHEAD74 /clone_end=3 /gb=AA798663 /gi=2862618 /ug=Rn.6216 /len=478
AA7988 63	4430	CAA52 612	4431	BG698621	4432	No Human Protein Found.		88.65	M.musculus T10	X74504	rc_AA798663 EST189160 Rattus norvegicus cDNA, 3' end /clone=RHEAD74 /clone_end=3 /gb=AA798663 /gi=2862618 /ug=Rn.6216 /len=478
AA7988 63	4433	CAA52 612	4434	BG698621	4435	No Human Protein Found.		88.65	M.musculus T10 mRNA	X74504	rc_AA798663 EST189160 Rattus norvegicus cDNA, 3' end /clone=RHEAD74 /clone_end=3 /gb=AA798663 /gi=2862618 /ug=Rn.6216 /len=478
AA7988 63	4436	CAA52 612	4437	BG698621	4438	No Human Protein Found.		88.65	M.musculus T10	X74504	rc_AA798663 EST189160 Rattus norvegicus cDNA, 3' end /clone=RHEAD74 /clone_end=3 /gb=AA798663 /gi=2862618 /ug=Rn.6216 /len=478
AA7986 67	4439	CAB56 623	4440	NM_0066 93	4441	NP_006 684	4442	98	Rattus norvegicus CDK106	Y17326	rc_AA798667 EST189164 Rattus norvegicus cDNA, 3' end /clone=RHEAD78 /clone_end=3 /gb=AA798667 /gi=2862622 /ug=Rn.22470 /len=541
AA7986 72	4443	P21533	4444	AA307406	4445	XP_050 942		91.08	ribosomal protein L6	X87107	rc_AA798672 EST189169 Rattus norvegicus cDNA, 3' end /clone=RHEAD83 /clone_end=3 /gb=AA798672 /gi=2862627 /ug=Rn.2660 /len=616

60S ribosomal  
protein L6  
(Neoplasm-  
related protein  
C140).

Table 2.

AA7996 81	4446	No Rat Protein Found.		No human homolog found.	No Human Protein Found.			EST(not recognised)		rc_AA799681 EST189178 Rattus norvegicus cDNA, 3' end /clone=RHEAD98 /clone_end=3 /gb=AA799681 /gi=2862636 /ug=Rn.20182 /len=461
AA7996 91	4447	AAD38 328	4448	XM_01677 3	XP_016 773	75		putative potassium- chloride cotransporter- 4 (Kcc4)	AF087436	rc_AA799691 EST189188 Rattus norvegicus cDNA, 3' end /clone=RHEAE11 /clone_end=3 /gb=AA799691 /gi=2862646 /ug=Rn.6967 /len=628
AA7997 00	4449	NP_033 292	4450	NM_0122 48	Q88611	4452	78	selenophosph ate synthetase 2 (Spe2)	NM_00926 6	rc_AA799700 EST189197 Rattus norvegicus cDNA, 3' end /clone=RHEAE21 /clone_end=3 /gb=AA799700 /gi=2862655 /ug=Rn.11447 /len=540
AA7997 11	4453	S12207		No human homolog found.	No Human Protein Found.			ESTs, Moderately similar to S12207 hypothetical protein [M.musculus]		rc_AA799711 EST189208 Rattus norvegicus cDNA, 3' end /clone=RHEAE37 /clone_end=3 /gb=AA799711 /gi=2862666 /ug=Rn.17142 /len=586
AA7997 11	4454	S12207		No human homolog found.	No Human Protein Found.			ESTs, Moderately similar to S12207 hypothetical protein [M.musculus]		rc_AA799711 EST189208 Rattus norvegicus cDNA, 3' end /clone=RHEAE37 /clone_end=3 /gb=AA799711 /gi=2862666 /ug=Rn.17142 /len=586
AA7997 18	4455	No Rat Protein Found.	4456	AA806443	No Human Protein Found.	95.05		Mus musculus ES cells cDNA, RIKEN		rc_AA799718 EST189215 Rattus norvegicus cDNA, 3' end /clone=RHEAE44 /clone_end=3 /gb=AA799718 /gi=2862673 /ug=Rn.3816 /len=571
AA7997 24	4457	NP_033 113	4458	NM_0159 72	Q9Y2S0	4460	92.19	RNA polymerase 1- 3 (16 kDa subunit)	NM_00908 7	rc_AA799724 EST189221 Rattus norvegicus cDNA, 3' end /clone=RHEAE52 /clone_end=3 /gb=AA799724 /gi=2862679 /ug=Rn.6228 /len=638
AA7997 26	4461	No Rat Protein Found.	4462	AB051524	No Human Protein Found.	86.89		Mus musculus adult male tongue cDNA, RIKEN		rc_AA799726 EST189223 Rattus norvegicus cDNA, 3' end /clone=RHEAE54 /clone_end=3 /gb=AA799726 /gi=2862681 /ug=Rn.19617 /len=503

Table 2.

AA7997 32	4463	No Rat Protein Found.		X98484	4464	Q14129	4465	91.03	EST's, Moderately similar to DGC6 MOUSE DGC8 PROTEIN [M.musculus]		rc_AA799732 EST189229 Rattus norvegicus cDNA, 3' end /clone=RHEAE60 /clone_end=3 /gb=AA799732 /gi=2862887 /ug=Rn.22487 /len=578
AA7997 35	4466	AAH06 688	4467	Y17829	4468	XP_001 403	4469	94.46	Mus musculus, HS1 binding protein	BC006688	rc_AA799735 EST189232 Rattus norvegicus cDNA, 3' end /clone=RHEAE63 /clone_end=3 /gb=AA799735 /gi=2862690 /ug=Rn.3544 /len=581
AA7997 35	4470	AAH06 688	4471	Y17829	4472	XP_001 403	4473	94.46	Mus musculus, HS1 binding protein	BC006688	rc_AA799735 EST189232 Rattus norvegicus cDNA, 3' end /clone=RHEAE63 /clone_end=3 /gb=AA799735 /gi=2862690 /ug=Rn.3544 /len=581
AA7997 40	4474	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA799740 EST189237 Rattus norvegicus cDNA, 3' end /clone=RHEAE68 /clone_end=3 /gb=AA799740 /gi=2862695 /ug=Rn.3717 /len=658
AA7997 45	4475	AAF602 22	4476	XM_01704 2		XP_017 042	82	82	CDK5 activator- binding protein C53	AF177476	rc_AA799745 EST189242 Rattus norvegicus cDNA, 3' end /clone=RHEAE75 /clone_end=3 /gb=AA799745 /gi=2862700 /ug=Rn.3727 /len=668
AA7997 45	4477	AAF602 22	4478	XM_01704 2		XP_017 042	82	82	CDK5 activator- binding protein C53	AF177476	rc_AA799745 EST189242 Rattus norvegicus cDNA, 3' end /clone=RHEAE75 /clone_end=3 /gb=AA799745 /gi=2862700 /ug=Rn.3727 /len=668
AA7997 45	4479	AAF602 22	4480	XM_01704 2		XP_017 042	82	82	CDK5 activator- binding protein C53	AF177476	rc_AA799745 EST189242 Rattus norvegicus cDNA, 3' end /clone=RHEAE75 /clone_end=3 /gb=AA799745 /gi=2862700 /ug=Rn.3727 /len=668
AA7997 45	4481	AAF602 22	4482	XM_01704 2		XP_017 042	82	82	CDK5 activator- binding protein C53	AF177476	rc_AA799745 EST189242 Rattus norvegicus cDNA, 3' end /clone=RHEAE75 /clone_end=3 /gb=AA799745 /gi=2862700 /ug=Rn.3727 /len=668
AA7997 51	4483	No Rat Protein Found.		AV724415	4484	No Human Protein Found.		85.58	EST(not recognised)		rc_AA799751 EST189248 Rattus norvegicus cDNA, 3' end /clone=RHEAE83 /clone_end=3 /gb=AA799751 /gi=2862706 /ug=Rn.3583 /len=671



Table 2.

AA7997 64	4485	No Rat Protein Found.	BC007880	4486	No Human Protein Found.	Q13155	4489	91.27	EST(not recognised)	JTV1	83.11	4489	91.27	EST(not recognised)	rc_AA799764 EST189261 Rattus norvegicus cDNA, 3 end /clone=RHEAF08 /clone_end=3 /gb=AA799764 /gi=2862719 /ug=Rn.6231 /len=646	
AA7997 66	4487	No Rat Protein Found.	NIM_0063 03	4488	No Human Protein Found.	Q13155	4489	83.11	EST(not recognised)	JTV1	83.11	4489	83.11	EST(not recognised)	rc_AA799766 EST189263 Rattus norvegicus cDNA, 3 end /clone=RHEAF10 /clone_end=3 /gb=AA799766 /gi=2862721 /ug=Rn.3333 /len=567	
AA7997 71	4490	No Rat Protein Found.	BG778035	4491	No Human Protein Found.	Q13155	4489	87.38	EST(not recognised)	JTV1	83.11	4489	87.38	EST(not recognised)	rc_AA799771 EST189268 Rattus norvegicus cDNA, 3 end /clone=RHEAF15 /clone_end=3 /gb=AA799771 /gi=2862726 /ug=Rn.3821 /len=631	
AA7997 71	4492	No Rat Protein Found.	BG778035	4493	No Human Protein Found.	Q13155	4489	87.38	EST (not recognized)	JTV1	83.11	4489	87.38	EST (not recognized)	rc_AA799771 EST189268 Rattus norvegicus cDNA, 3 end /clone=RHEAF15 /clone_end=3 /gb=AA799771 /gi=2862726 /ug=Rn.3821 /len=631	
AA7997 73	4484	No Rat Protein Found.	No human homolog found.		No Human Protein Found.	Q13155	4489		Mus musculus 18 days embryo cDNA, RIKEN	JTV1	83.11	4489		Mus musculus 18 days embryo cDNA, RIKEN	rc_AA799773 EST189270 Rattus norvegicus cDNA, 3 end /clone=RHEAF17 /clone_end=3 /gb=AA799773 /gi=2862728 /ug=Rn.22352 /len=615	
AA7997 73	4495	No Rat Protein Found.	No human homolog found.		No Human Protein Found.	Q13155	4489		Mus musculus 18 days embryo cDNA, RIKEN	JTV1	83.11	4489		Mus musculus 18 days embryo cDNA, RIKEN	rc_AA799773 EST189270 Rattus norvegicus cDNA, 3 end /clone=RHEAF17 /clone_end=3 /gb=AA799773 /gi=2862728 /ug=Rn.22352 /len=615	
AA7997 78	4486	P19511	BI461802	4498	NP_001 678	Q13155	4489	86.13	F-0-ATPase subunit b	JTV1	83.11	4489	86.13	F-0-ATPase subunit b	rc_AA799778 EST189275 Rattus norvegicus cDNA, 3 end /clone=RHEAF23 /clone_end=3 /gb=AA799778 /gi=2862733 /ug=Rn.3689 /len=568	Mitochondrial "ATP synthase B chain, mitochondrial precursor (EC 3.6.3.14)."

Table 2.

AA799779	4500	Q8ES7 1	4501	NM_0142 36	4502	O15228	4503	80	glyceronephosphate O-acyltransferase (Gnpat)	NM_010322	tc_AA799779 EST189276 Rattus norvegicus cDNA, 3' end /clone=RHEAF24 /clone_end=3 /gb=AA799779 /gi=2862734 /ug=Rn.1739 /len=679	PEROXISOMAL; EXCLUSIVE LOCALIZED TO THE LUMENAL SIDE OF THE PEROXISOMAL MEMBRANE	Dihydroxyacetone phosphate acyltransferase (EC 2.3.1.42) (DHAP-AT)(DAP-AT) (Glycerone-phosphate O-acyltransferase) (Acyl-CoA: dihydroxyacetonephosphate acyltransferase).
AA799779	4504	Q8ES7 1	4505	NM_0142 36	4506	O15228	4507	80	peroxisomal acyl-CoA: dihydroxyacetone phosphate acyltransferase	AF110769	tc_AA799779 EST189276 Rattus norvegicus cDNA, 3' end /clone=RHEAF24 /clone_end=3 /gb=AA799779 /gi=2862734 /ug=Rn.1739 /len=679	PEROXISOMAL; EXCLUSIVE LOCALIZED TO THE LUMENAL SIDE OF THE PEROXISOMAL MEMBRANE	Dihydroxyacetone phosphate acyltransferase (EC 2.3.1.42) (DHAP-AT)(DAP-AT) (Glycerone-phosphate O-acyltransferase) (Acyl-CoA: dihydroxyacetonephosphate acyltransferase).

Table 2.

AA7997 79	4508	Q9ES7 1	4509	NM_0142 36	4510	O15228	4511	80	glyceronephosphatase acyltransferase (Gnpat)	NM_01032 2	rc_AA799779 EST189276 Rattus norvegicus cDNA, 3' end /clone=RHEAF24 /clone_end=3 /gb=AA799779 /gi=2862734 /ug=Rn.1739 /len=679	PEROXISOMAL; EXCLUSIVE LOCALIZED TO THE LUMENAL SIDE OF THE PEROXISOMAL MEMBRANE	Dihydroxyacetone phosphate acyltransferase (EC 2.3.1.42) (DHAP-AT) (Glycerone-phosphate O-acyltransferase) (Acyl-CoA: dihydroxyacetonephosphate acyltransferase).
AA7997 79	4512	Q9ES7 1	4513	NM_0142 36	4514	O15228	4515	80	peroxisomal acyl-CoA: dihydroxyacetone phosphate acyltransferase	AF110769	rc_AA799779 EST189276 Rattus norvegicus cDNA, 3' end /clone=RHEAF24 /clone_end=3 /gb=AA799779 /gi=2862734 /ug=Rn.1739 /len=679	PEROXISOMAL; EXCLUSIVE LOCALIZED TO THE LUMENAL SIDE OF THE PEROXISOMAL MEMBRANE	Dihydroxyacetone phosphate acyltransferase (EC 2.3.1.42) (DHAP-AT) (Glycerone-phosphate O-acyltransferase) (Acyl-CoA: dihydroxyacetonephosphate acyltransferase).
AA7997 83	4516	No Rat Protein Found.		A1882207	4517	No Human Protein Found.		96.3	EST (not recognised)		rc_AA799783 EST189280 Rattus norvegicus cDNA, 3' end /clone=RHEAF28 /clone_end=3 /gb=AA799783 /gi=2862738 /ug=Rn.12965 /len=609	PEROXISOMAL; EXCLUSIVE LOCALIZED TO THE LUMENAL SIDE OF THE PEROXISOMAL MEMBRANE	Dihydroxyacetone phosphate acyltransferase (EC 2.3.1.42) (DHAP-AT) (Glycerone-phosphate O-acyltransferase) (Acyl-CoA: dihydroxyacetonephosphate acyltransferase).
AA7997 84	4518	AAD38 018	4519	AL136727	4520	AAH036 17	4521	91.94	RAB6, member RAS oncogene family	AF148210	rc_AA799784 EST189281 Rattus norvegicus cDNA, 3' end /clone=RHEAF29 /clone_end=3 /gb=AA799784 /gi=2862739 /ug=Rn.1695 /len=673	PEROXISOMAL; EXCLUSIVE LOCALIZED TO THE LUMENAL SIDE OF THE PEROXISOMAL MEMBRANE	Dihydroxyacetone phosphate acyltransferase (EC 2.3.1.42) (DHAP-AT) (Glycerone-phosphate O-acyltransferase) (Acyl-CoA: dihydroxyacetonephosphate acyltransferase).

Table 2.

AA798804	4522	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)		rc_AA798804 EST189301 Rattus norvegicus cDNA, 3' end /clone=RHEAF56 /clone_end=3 /gb=AA798804 /gi=2862759 /ug=Rn.25117 /len=562
AA798814	4523	No Rat Protein Found.	U12778	P49137	4525	EST(not recognised)	93.72	rc_AA798814 EST189311 Rattus norvegicus cDNA, 3' end /clone=RHEAF68 /clone_end=3 /gb=AA798814 /gi=2862769 /ug=Rn.6276 /len=475
AA798822	4526	AAH10524	4527	No human homolog found.	No Human Protein Found.	EST (mouse hypothetical protein)		rc_AA798822 EST189319 Rattus norvegicus cDNA, 3' end /clone=RHEAF78 /clone_end=3 /gb=AA798822 /gi=2862777 /ug=Rn.6239 /len=610
AA798822	4528	AAH10524	4529	No human homolog found.	No Human Protein Found.	EST (mouse hypothetical protein)		rc_AA798822 EST189319 Rattus norvegicus cDNA, 3' end /clone=RHEAF78 /clone_end=3 /gb=AA798822 /gi=2862777 /ug=Rn.6239 /len=610
AA798824	4530	AAC83084	4531	J05682	P21283	vacuolar adenosine triphosphatase subunit C	89.01	rc_AA798824 EST189321 Rattus norvegicus cDNA, 3' end /clone=RHEAF80 /clone_end=3 /gb=AA798824 /gi=2862779 /ug=Rn.6240 /len=630
AA798854	4534	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)		rc_AA798854 EST189351 Rattus norvegicus cDNA, 3' end /clone=RHEAG17 /clone_end=3 /gb=AA798854 /gi=2862809 /ug=Rn.6244 /len=427
AA798858	4535	P49432	4536	AAH00439	BC000439	Pyruvate dehydrogenase (lipoamide) beta		rc_AA798858 EST189355 Rattus norvegicus cDNA, 3' end /clone=RHEAG21 /clone_end=3 /gb=AA798858 /gi=2862813 /ug=Rn.6245 /len=207
AA798861	4538	NP_058546	4539	U73036	Q92985	Interferon regulatory factor 7 (lrf7),	82.9	rc_AA798861 EST189358 Rattus norvegicus cDNA, 3' end /clone=RHEAG24 /clone_end=3 /gb=AA798861 /gi=2862816 /ug=Rn.6246 /len=499
AA798861	4542	NP_058546	4543	U73036	Q92985	Interferon regulatory factor 7 (lrf7),	82.9	rc_AA798861 EST189358 Rattus norvegicus cDNA, 3' end /clone=RHEAG24 /clone_end=3 /gb=AA798861 /gi=2862816 /ug=Rn.6246 /len=499

Table 2.

AA7988 89	4546	NP_035 048	4547	A1628792	4548	A47328	4549	88.89	Natural killer tumor recognition protein (cyclophilin- related)		rc_AA798889 EST189386 Rattus norvegicus cDNA, 3' end /clone=RHEAG57 /clone_end=3 /gb=AA798889 /gi=2862844 /ug=Rn.3832 /len=510
AA7988 89	4550	NP_035 048	4551	A1628792	4552	A47328	4553	88.89	Natural killer tumor recognition protein (cyclophilin- related)	NM_01091 8	rc_AA798889 EST189386 Rattus norvegicus cDNA, 3' end /clone=RHEAG57 /clone_end=3 /gb=AA798889 /gi=2862844 /ug=Rn.3832 /len=510
AA7988 93	4554	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Mus musculus 10 day old male pancreas cDNA, RIKEN		rc_AA798893 EST189390 Rattus norvegicus cDNA, 3' end /clone=RHEAG61 /clone_end=3 /gb=AA798893 /gi=2862848 /ug=Rn.1819 /len=523
AA7988 93	4555	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Mus musculus 10 day old male pancreas cDNA, RIKEN		rc_AA798893 EST189390 Rattus norvegicus cDNA, 3' end /clone=RHEAG61 /clone_end=3 /gb=AA798893 /gi=2862848 /ug=Rn.1819 /len=523
AA7988 64	4556	No Rat Protein Found.		AK024270	4557	No Human Protein Found.		84.55	Mus musculus 18 days embryo cDNA, RIKEN full- length enriched library, clone:1110046 J11		rc_AA798964 EST189461 Rattus norvegicus cDNA, 3' end /clone=RHEAH66 /clone_end=3 /gb=AA798964 /gi=2862919 /ug=Rn.6261 /len=452
AA7988 80	4558	S20392	4559	AW66593 6	4560	O75688	4561	92.5	Protein phosphatase type 1B (formerly 2C), Mg- dependent, beta isoform		rc_AA798980 EST189477 Rattus norvegicus cDNA, 3' end /clone=RHEAH85 /clone_end=3 /gb=AA798980 /gi=2862935 /ug=Rn.4143 /len=551

Table 2.

AA7999 91	4562	No Rat Protein Found.	AF288393	4563	Q9BZQ6	4564	93.68	EST (not recognized)	AB027143	rc_AA799991 EST189488 Rattus norvegicus cDNA, 3' end /clone=RHEA101 /clone_end=3 /gb=AA799991 /gi=2862846 /ug=Rn.3844 /len=712
AA8000 04	4565	BAA980 51	4566	AF035811	4567	O43236	94.25	CDCrel-1A		rc_AA800004 EST189501 Rattus norvegicus cDNA, 3' end /clone=RHEA119 /clone_end=3 /gb=AA800004 /gi=2862959 /ug=Rn.8269 /len=649
AA8000 24	4569	NP_033 860	4570	AK021433	4571	NP_036 202	92.76	Attractin	NM_009730	rc_AA800024 EST189521 Rattus norvegicus cDNA, 3' end /clone=RHEA150 /clone_end=3 /gb=AA800024 /gi=2862979 /ug=Rn.22339 /len=579
AA8000 34	4573	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA800034 EST189531 Rattus norvegicus cDNA, 3' end /clone=RHEA163 /clone_end=3 /gb=AA800034 /gi=2862989 /ug=Rn.8569 /len=613
AA8000 34	4574	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA800034 EST189531 Rattus norvegicus cDNA, 3' end /clone=RHEA163 /clone_end=3 /gb=AA800034 /gi=2862988 /ug=Rn.8569 /len=613
AA8000 36	4575	No Rat Protein Found.	NM_0145 75	4576	NP_055 390	4577	91.37	schwannomin- interacting protein 1 (SHIP1)		rc_AA800036 EST189533 Rattus norvegicus cDNA, 3' end /clone=RHEA165 /clone_end=3 /gb=AA800036 /gi=2862991 /ug=Rn.22212 /len=514
AA8000 54	4578	P14118	4578	NM_0009 81	4580	P14118	72	ribosomal protein L19	NM_031103	rc_AA800054 EST189551 Rattus norvegicus cDNA, 3' end /clone=RHEA186 /clone_end=3 /gb=AA800054 /gi=2863009 /ug=Rn.3384 /len=602
AA8000 62	4582	NP_062 708	4583	NM_0043 15	4584	Q13510	79	N- acylsphingosin- e amidehydrolas e 1 (Asah1)	NM_019734	rc_AA800082 EST189559 Rattus norvegicus cDNA, 3' end /clone=RHEA195 /clone_end=3 /gb=AA800082 /gi=2863017 /ug=Rn.4158 /len=648

60S ribosomal  
protein L19.

Table 2.

AA8001 26	4586	No Rat Protein Found.	L10910	4587	CAC111 16	4588	97.25	Human DNA sequence from clone RP11-353C18 on chromosome 20	rc_AA800126 EST189623 Rattus norvegicus cDNA, 3' end /clone=RHEAL05 /clone_end=3 /gb=AA800126 /gl=2863081 /ug=Rn.8555 /len=378
AA8001 68	4589	No Rat Protein Found.	No human homolog found.	No	No Human Protein Found.	4588		EST (not recognized)	rc_AA800168 EST189665 Rattus norvegicus cDNA, 3' end /clone=RHEAL95 /clone_end=3 /gb=AA800168 /gl=2863123 /ug=Rn.22112 /len=343
AA8001 77	4590	No Rat Protein Found.	No human homolog found.	No	No Human Protein Found.			EST (not recognized)	rc_AA800177 EST189674 Rattus norvegicus cDNA, 3' end /clone=RHEAM10 /clone_end=3 /gb=AA800177 /gl=2863132 /ug=Rn.3864 /len=576
AA8001 77	4591	No Rat Protein Found.	No human homolog found.	No	No Human Protein Found.			EST (not recognized)	rc_AA800177 EST189674 Rattus norvegicus cDNA, 3' end /clone=RHEAM10 /clone_end=3 /gb=AA800177 /gl=2863132 /ug=Rn.3864 /len=576
AA8001 84	4592	No Rat Protein Found.	AB011101	4593	Q8Y4E8	4594	95.31	Homo sapiens ubiquitin specific protease 15	rc_AA800184 EST189681 Rattus norvegicus cDNA, 3' end /clone=RHEAM20 /clone_end=3 /gb=AA800184 /gl=2863139 /ug=Rn.6294 /len=514
AA8001 90	4595	AAA412 52	AF013570	4597	P35749	4598	92.47	Rat glycogen phosphorylase brain isozyme mRNA, 5'	rc_AA800190 EST189687 Rattus norvegicus cDNA, 3' end /clone=RHEAM27 /clone_end=3 /gb=AA800190 /gl=2863145 /ug=Rn.1518 /len=645
AA8001 90	4599	AAA412 52	AF013570	4601	P35749	4602	92.47	Rat glycogen phosphorylase brain isozyme mRNA, 5'	rc_AA800190 EST189687 Rattus norvegicus cDNA, 3' end /clone=RHEAM27 /clone_end=3 /gb=AA800190 /gl=2863145 /ug=Rn.1518 /len=645
AA8001 98	4603	No Rat Protein Found.	BF904759	4604	No Human Protein Found.		93.57	Mus musculus adult male tongue cDNA, RIKEN	rc_AA800198 EST189695 Rattus norvegicus cDNA, 3' end /clone=RHEAM35 /clone_end=3 /gb=AA800198 /gl=2863153 /ug=Rn.3405 /len=556

Table 2.

AA8001 99	4605	No Rat Protein Found.	4608	BE396293	4606	No Human Protein Found.	85.19	Mus musculus 18 days embryo cDNA, RIKEN		rc_AA800199 EST189696 Rattus norvegicus cDNA, 3 end /clone=RHEAM36 /clone_end=3 /gb=AA800199 /gi=2863154 /lug=Rn.2890 /len=631		INTEGRAL MEMBRANE PROTEIN. SARCOPLA SMIC AND ENDOPLAS MIC RETICULUM	"Sarcoplasmic/e ndoplasmic reticulum calcium ATPase 2 (EC 3.6.3.8)(Calcium pump 2) (SERCA2) (SR Ca(2+)-ATPase 2) (Calcium- transportingATP ase sarcoplasmic reticulum type, slow twitch skeletal muscleisofo"
AA8002 12	4607	P11507	4608	M23114	4609	P16615	91.03	ATPase, Ca++ transporting, cardiac muscle, slow twitch 2	4610	rc_AA800212 EST189709 Rattus norvegicus cDNA, 3 end /clone=RHEAM51 /clone_end=3 /gb=AA800212 /gi=2863167 /lug=Rn.2305 /len=727			
AA8002 20	4611	NP_037 138	4612	BE018412	4613	NP_006 321	92.42	Lysophospholi pase	4614	rc_AA800220 EST189717 Rattus norvegicus cDNA, 3 end /clone=RHEAM59 /clone_end=3 /gb=AA800220 /gi=2863175 /lug=Rn.3594 /len=720			
AA8002 21	4615	AAK503 99	4616	AF129505	4617	Q9UHP9	85.65	SMPX protein	4618	rc_AA800221 EST189718 Rattus norvegicus cDNA, 3 end /clone=RHEAM60 /clone_end=3 /gb=AA800221 /gi=2863176 /lug=Rn.4123 /len=459			
AA8002 24	4619	No Rat Protein Found.		AK001441	4620	No Human Protein Found.	87.13	EST (not recognized)	4621	rc_AA800224 EST189721 Rattus norvegicus cDNA, 3 end /clone=RHEAM64 /clone_end=3 /gb=AA800224 /gi=2863179 /lug=Rn.18772 /len=583			



Table 2.

AA8002 28	4622	CAA62 001	4623	AB027011	4624	CAB460 24	4625	87.86	R. norvegicus mRNA for unknown protein (PIPPIn)		rc_AA800228 EST189725 Rattus norvegicus cDNA, 3' end /clone=RHEAM68 /clone_end=3 /gb=AA800228 /gi=2863183 /ug=Rn.1171 /len=669
AA8002 43	4626	NP_031 728	4627	AF041378	4628	O60543	4629	85.45	cell death- inducing DNA fragmentation factor, alpha subunit-like effector A	NM_00770 2	rc_AA800243 EST189740 Rattus norvegicus cDNA, 3' end /clone=RHEAM86 /clone_end=3 /gb=AA800243 /gi=2863198 /ug=Rn.8171 /len=613
AA8002 60	4630	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA800260 EST189757 Rattus norvegicus cDNA, 3' end /clone=RHEAN12 /clone_end=3 /gb=AA800260 /gi=2863215 /ug=Rn.3448 /len=623
AA8002 88	4631	AAH02 146	4632	XM_00873 6		XP_006 736			similar to HSPC160 protein (EST)	BC002148	rc_AA800268 EST189765 Rattus norvegicus cDNA, 3' end /clone=RHEAN22 /clone_end=3 /gb=AA800268 /gi=2863223 /ug=Rn.3875 /len=569
AA8002 72	4633	No Rat Protein Found.		X08323	4634	P09001	4635	91.16	Mus musculus adult male kidney cDNA, RIKEN		rc_AA800272 EST189769 Rattus norvegicus cDNA, 3' end /clone=RHEAN26 /clone_end=3 /gb=AA800272 /gi=2863227 /ug=Rn.6950 /len=625
AA8002 90	4636	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA800280 EST189787 Rattus norvegicus cDNA, 3' end /clone=RHEAN45 /clone_end=3 /gb=AA800280 /gi=2863245 /ug=Rn.6309 /len=420
AA8002 90	4637	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA800290 EST189787 Rattus norvegicus cDNA, 3' end /clone=RHEAN45 /clone_end=3 /gb=AA800290 /gi=2863245 /ug=Rn.6309 /len=420

Table 2.

AA8002 90	4638	No Rat Protein Found.	4643	No human homolog found.	4644	Q8NRY6	4845	90	phospholipid scramblase 3 (P1scr3)	NIM_02356 4	rc_AA800290 EST189787 Rattus norvegicus cDNA, 3' end /clone=RHEAN45 /clone_end=3 /gb=AA800290 /gi=2863245 /ug=Rn.6309 /len=420
AA8002 90	4639	No Rat Protein Found.	4640	No human homolog found.					EST (not recognized)		rc_AA800290 EST189787 Rattus norvegicus cDNA, 3' end /clone=RHEAN45 /clone_end=3 /gb=AA800290 /gi=2863245 /ug=Rn.6309 /len=420
AA8002 90	4640	No Rat Protein Found.		No human homolog found.					EST (not recognized)		rc_AA800290 EST189787 Rattus norvegicus cDNA, 3' end /clone=RHEAN45 /clone_end=3 /gb=AA800290 /gi=2863245 /ug=Rn.6309 /len=420
AA8002 90	4641	No Rat Protein Found.		No human homolog found.					EST (not recognized)		rc_AA800290 EST189787 Rattus norvegicus cDNA, 3' end /clone=RHEAN45 /clone_end=3 /gb=AA800290 /gi=2863245 /ug=Rn.6309 /len=420
AA8003 03	4642	NP_076 053	4643	NM_0203 60	4644	Q8NRY6	4845	90			rc_AA800303 EST189800 Rattus norvegicus cDNA, 3' end /clone=RHEAN65 /clone_end=3 /gb=AA800303 /gi=2863258 /ug=Rn.22784 /len=569
AA8003 05	4646	NM_02 2692		XM_05346 1		XP_053 461			RAB5A, member RAS oncogene family (RAB5A),	NP_07318 3	rc_AA800305 EST189802 Rattus norvegicus cDNA, 3' end /clone=RHEAN88 /clone_end=3 /gb=AA800305 /gi=2863260 /ug=Rn.6311 /len=556
AA8003 18	4647	B26423	4648	M13203	4849	ITTHUC1	4850	81	ESTs, Weakly similar to B26423 serine proteinase inhibitor 2.2 - rat (R.norvegicus)		rc_AA800318 EST189815 Rattus norvegicus cDNA, 3' end /clone=RHEAN84 /clone_end=3 /gb=AA800318 /gi=2863273 /ug=Rn.947 /len=560

Table 2.

AA8005 35	4651	No Rat Protein Found.	AF247703	4652	T47144	4653	96.79	ESTs, Weakly similar to T47144 hypothetical protein DKFZp761E1 347.1 [H.sapiens]	rc_AA800535 EST190032 Rattus norvegicus cDNA, 3' end /clone=RLUAB20 /clone_end=3 /gb=AA800535 /gi=2863490 /ug=Rn.8573 /len=476
AA8005 70	4654	No Rat Protein Found.	R49498	4655	No Human Protein Found.	4658	95.61	Homo sapiens chromosome 15 clone RP11 64K12	rc_AA800570 EST190067 Rattus norvegicus cDNA, 3' end /clone=RLUAB41 /clone_end=3 /gb=AA800570 /gi=2863525 /ug=Rn.3346 /len=496
AA8005 72	4658	No Rat Protein Found.	AF041037	4657	O43609	4658	93.99	Homo sapiens novel antagonist of FGF signalling (eprouy-1)	rc_AA800572 EST190069 Rattus norvegicus cDNA, 3' end /clone=RLUAB42 /clone_end=3 /gb=AA800572 /gi=2863527 /ug=Rn.22767 /len=473
AA8005 97	4659	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	No Human Protein Found.			EST (not recognized)	rc_AA800597 EST190094 Rattus norvegicus cDNA, 3' end /clone=RLUAB60 /clone_end=3 /gb=AA800597 /gi=2863552 /ug=Rn.1149 /len=596
AA8005 97	4660	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	No Human Protein Found.			EST (not recognized)	rc_AA800597 EST190094 Rattus norvegicus cDNA, 3' end /clone=RLUAB60 /clone_end=3 /gb=AA800597 /gi=2863552 /ug=Rn.1149 /len=596
AA8006 22	4661	No Rat Protein Found.	AK056690	4662	No Human Protein Found.		93.8	EST (not recognized)	rc_AA800622 EST190119 Rattus norvegicus cDNA, 3' end /clone=RLUAB76 /clone_end=3 /gb=AA800622 /gi=2863577 /ug=Rn.22788 /len=652
AA8006 37	4663	BAB274 81	4664	4665	No Human Protein Found.			Homo sapiens full length insert cDNA clone	rc_AA800637 EST190134 Rattus norvegicus cDNA, 3' end /clone=RLUAB84 /clone_end=3 /gb=AA800637 /gi=2863592 /ug=Rn.2033 /len=639

Table 2.

AA8006 39	4666	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	rc_AA800639 EST190138 Rattus norvegicus cDNA, 3' end /clone=RLUAB85 /clone_end=3 /gb=AA800639 /gl=2863594 /ug=Rn.6615 /len=583
AA8006 51	4667	No Rat Protein Found.	NM_0062 43	4668	4669	89	protein phosphatase 2, regulatory subunit B (B56)
AA8006 63	4670	NP_075 532	4671	4672	4673	95.48	Mus musculus RAN binding protein 16
AA8006 71	4674	NP_006 624	4675	4676	4677	96.75	IQ motif containing GTPase activating protein 2
AA8006 73	4678	No Rat Protein Found.	D79986	4679	4680	96.84	Mus musculus 10, 11 days embryo cDNA, RIKEN
AA8006 78	4681	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	rc_AA800678 EST190175 Rattus norvegicus cDNA, 3' end /clone=RLUAK20 /clone_end=3 /gb=AA800678 /gl=2863633 /ug=Rn.8592 /len=452
AA8006 80	4682	BAB282 31	4683	No Human Protein Found.		EST (mouse hypothetical protein)	rc_AA800680 EST190177 Rattus norvegicus cDNA, 3' end /clone=RLUAK23 /clone_end=3 /gb=AA800680 /gl=2863635 /ug=Rn.22790 /len=626

Table 2.

AA8006 84	4684	PT0198	M36881	4685	P06239	4686	91.54	ESTs, Moderately similar to TYROSINE- PROTEIN KINASE LYN [R.norvegicus]	rc_AA800684 EST190181 Rattus norvegicus cDNA, 3' end /clone=RLUAK27 /clone_end=3 /gb=AA800684 /gi=2863639 /ug=Rn.22791 /len=501
AA8006 84	4687	PT0198	M36881	4688	P06239	4689	91.54	ESTs, Moderately similar to TYROSINE- PROTEIN KINASE LYN [R.norvegicus]	rc_AA800684 EST190181 Rattus norvegicus cDNA, 3' end /clone=RLUAK27 /clone_end=3 /gb=AA800684 /gi=2863639 /ug=Rn.22791 /len=501
AA8006 86	4690	No Rat Protein Found.	D86962	4691	Q13322	4692	93.94	Similar to growth factor receptor- binding protein Grb10	rc_AA800686 EST190183 Rattus norvegicus cDNA, 3' end /clone=RLUAK29 /clone_end=3 /gb=AA800686 /gi=2863641 /ug=Rn.3751 /len=632
AA8006 86	4693	No Rat Protein Found.	D86962	4694	Q13322	4695	93.94	Similar to growth factor receptor- binding protein Grb10	rc_AA800686 EST190183 Rattus norvegicus cDNA, 3' end /clone=RLUAK29 /clone_end=3 /gb=AA800686 /gi=2863641 /ug=Rn.3751 /len=632
AA8006 93	4696	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			Mus musculus adult male tongue cDNA, RIKEN	rc_AA800693 EST190190 Rattus norvegicus cDNA, 3' end /clone=RLUAK36 /clone_end=3 /gb=AA800693 /gi=2863648 /ug=Rn.6620 /len=533
AA8006 93	4697	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA800693 EST190190 Rattus norvegicus cDNA, 3' end /clone=RLUAK36 /clone_end=3 /gb=AA800693 /gi=2863648 /ug=Rn.6620 /len=533

Table 2.

AA800693	4698	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	rc_AA800693 EST190190 Rattus norvegicus cDNA, 3' end /clone=RLUAK36 /clone_end=3 /gb=AA800693 /gi=2863648 /ug=Rn.8620 /len=533
AA800693	4699	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus adult male tongue cDNA, RIKEN	rc_AA800693 EST190190 Rattus norvegicus cDNA, 3' end /clone=RLUAK38 /clone_end=3 /gb=AA800693 /gi=2863648 /ug=Rn.8620 /len=533
AA800699	4700	No Rat Protein Found.	AK027812	4701	88.44 Mus musculus 18 days embryo cDNA, RIKEN full-length enriched library, clone:1110065 L07	rc_AA800699 EST190196 Rattus norvegicus cDNA, 3' end /clone=RLUAK42 /clone_end=3 /gb=AA800699 /gi=2863654 /ug=Rn.8621 /len=634
AA800699	4703	No Rat Protein Found.	AK027812	4704	88.44 ESTs, Weakly similar to YN80_YEAST HYPOTHETIC AL 32.3 KDA PROTEIN IN KRE1-HXT14 INTERGENIC REGION [S.cerevisiae]	rc_AA800699 EST190196 Rattus norvegicus cDNA, 3' end /clone=RLUAK42 /clone_end=3 /gb=AA800699 /gi=2863654 /ug=Rn.8621 /len=634
AA800701	4706	No Rat Protein Found.	BF109813	4707	96.15 Mus musculus 10 day old male pancreas cDNA, RIKEN	rc_AA800701 EST190198 Rattus norvegicus cDNA, 3' end /clone=RLUAK44 /clone_end=3 /gb=AA800701 /gi=2863656 /ug=Rn.8286 /len=585

Table 2.

AA8007 08	4709	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST(not recognised)	rc_AA800708 EST190205 Rattus norvegicus cDNA, 3 end /clone=RLUAK52 /clone_end=3 /gb=AA800708 /gi=2863663 /ug=Rn.3886 /len=641
AA8007 19	4710	No Rat Protein Found.	AL133060	4711	XP_043 341	83.12	KIAA1181 protein		rc_AA800719 EST190216 Rattus norvegicus cDNA, 3 end /clone=RLUAK63 /clone_end=3 /gb=AA800719 /gi=2863674 /ug=Rn.6624 /len=663
AA8007 19	4712	No Rat Protein Found.	AL133060	4713	XP_043 341	83.12	KIAA1181 protein		rc_AA800719 EST190216 Rattus norvegicus cDNA, 3 end /clone=RLUAK63 /clone_end=3 /gb=AA800719 /gi=2863674 /ug=Rn.6624 /len=663
AA8007 35	4714	No Rat Protein Found.	AF051850	4715	No Human Protein Found.	4716	Mus musculus, Similar to supervillin, clone IMAGE:35695 33		rc_AA800735 EST190232 Rattus norvegicus cDNA, 3 end /clone=RLUAK81 /clone_end=3 /gb=AA800735 /gi=2863690 /ug=Rn.6627 /len=552
AA8007 35	4717	No Rat Protein Found.	AF051850	4718	No Human Protein Found.	4719	Mus musculus, Similar to supervillin, clone IMAGE:35695 33		rc_AA800735 EST190232 Rattus norvegicus cDNA, 3 end /clone=RLUAK81 /clone_end=3 /gb=AA800735 /gi=2863690 /ug=Rn.6627 /len=552
AA8007 49	4720	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST (not recognised)		rc_AA800749 EST190246 Rattus norvegicus cDNA, 3 end /clone=RLUAL02 /clone_end=3 /gb=AA800749 /gi=2863704 /ug=Rn.1897 /len=637
AA8007 53	4721	CAC17 143	4722	4723	CAC176 09	4724	RanBP7/importin 7 [Mus musculus]	AJ278435	rc_AA800753 EST190250 Rattus norvegicus cDNA, 3 end /clone=RLUAL08 /clone_end=3 /gb=AA800753 /gi=2863708 /ug=Rn.17156 /len=475
AA8007 53	4725	CAC17 143	4726	4727	CAC176 09	4728	RanBP7/importin 7 [Mus musculus]	AJ278435	rc_AA800753 EST190250 Rattus norvegicus cDNA, 3 end /clone=RLUAL08 /clone_end=3 /gb=AA800753 /gi=2863708 /ug=Rn.17156 /len=475

Table 2.

AA800768	4729	No Rat Protein Found.	AW573102	4730	No Human Protein Found.	95.98	EST(not recognised)	XM_010337	rc_AA800768 EST190265 Rattus norvegicus cDNA, 3' end /clone=RLUAL23 /clone_end=3 /gb=AA800768 /gi=2863723 /ug=Rn.4116 /len=651
AA800772	4731	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA800772 EST190269 Rattus norvegicus cDNA, 3' end /clone=RLUAL27 /clone_end=3 /gb=AA800772 /gi=2863727 /ug=Rn.5539 /len=600
AA800782	4732	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST (not recognised)		rc_AA800782 EST190279 Rattus norvegicus cDNA, 3' end /clone=RLUAL38 /clone_end=3 /gb=AA800782 /gi=2863737 /ug=Rn.3621 /len=554
AA800787	4733	XP_010337	NIM_013985	4734	P13473	4735	lysosomal-associated membrane protein 2 (LAMP2)		rc_AA800787 EST190284 Rattus norvegicus cDNA, 3' end /clone=RLUAL44 /clone_end=3 /gb=AA800787 /gi=2863742 /ug=Rn.4117 /len=520
AA800794	4736	No Rat Protein Found.	U18543	4737	Q13049	4738	Mus musculus 10 day old male pancreas cDNA, RIKEN		rc_AA800794 EST190291 Rattus norvegicus cDNA, 3' end /clone=RLUAL53 /clone_end=3 /gb=AA800794 /gi=2863749 /ug=Rn.4118 /len=644
AA800803	4739	No Rat Protein Found.	AK026608	4740	No Human Protein Found.	4741	EST (not recognised)		rc_AA800803 EST190300 Rattus norvegicus cDNA, 3' end /clone=RLUAL62 /clone_end=3 /gb=AA800803 /gi=2863758 /ug=Rn.2245 /len=534
AA800803	4742	No Rat Protein Found.	AK026608	4743	No Human Protein Found.	4744	EST (not recognised)		rc_AA800803 EST190300 Rattus norvegicus cDNA, 3' end /clone=RLUAL62 /clone_end=3 /gb=AA800803 /gi=2863758 /ug=Rn.2245 /len=534
AA800814	4745	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST (not recognised)		rc_AA800814 EST190311 Rattus norvegicus cDNA, 3' end /clone=RLUAL75 /clone_end=3 /gb=AA800814 /gi=2863768 /ug=Rn.19955 /len=470
AA800850	4746	No Rat Protein Found.	L13689	4747	P35226	4748	murine leukemia viral (bml-1) oncogene homolog (BML1).		rc_AA800850 EST190347 Rattus norvegicus cDNA, 3' end /clone=RLUALM24 /clone_end=3 /gb=AA800850 /gi=2863805 /ug=Rn.17998 /len=470



Table 2.

AA8008 82	4749	No Rat Protein Found.	AA708838	4750	No Human Protein Found.	96.88	Mus musculus 11 days embryo head cDNA, RIKEN		rc_AA800882 EST190379 Rattus norvegicus cDNA, 3' end /clone=RLUAM60 /clone_end=3 /gb=AA800882 /gi=2863837 /ug=Rn.24136 /len=379	
AA8009 08	4751	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA800908 EST190405 Rattus norvegicus cDNA, 3' end /clone=RLUAM90 /clone_end=3 /gb=AA800908 /gi=2863863 /ug=Rn.6663 /len=297	
AA8009 28	4752	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST (not recognized)		rc_AA800928 EST190425 Rattus norvegicus cDNA, 3' end /clone=RLUAN23 /clone_end=3 /gb=AA800928 /gi=2863883 /ug=Rn.23969 /len=460	
AA8009 62	4753	NP_035 732	4754	4755	Q8Y490	4756	Talin	NM_01160 2	rc_AA800962 EST190459 Rattus norvegicus cDNA, 3' end /clone=RLUAN59 /clone_end=3 /gb=AA800962 /gi=2863917 /ug=Rn.6674 /len=495	
AA8011 30	4757	P29354	4758	4759	P29354	4760	growth factor receptor bound protein 2 (Grb2),	NM_00816 3	rc_AA801130 EST190627 Rattus norvegicus cDNA, 3' end /clone=ROVAA74 /clone_end=3 /gb=AA801130 /gi=2864085 /ug=Rn.3360 /len=613	Growth factor receptor-bound protein 2 (GRB2) adaptor protein(SH2/SH 3 adaptor GRB2) (ASH protein).

Table 2.

AA8178 43	4761	P22569	4762	XM_04919 4	XP_049 194				nuclear transcription factor Y, beta (NFYB),	NM_03155 3	rc_AA817843 UI-R-A0-ae-f-09-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-ae-f- 09-Q-UI /clone_end=3 /gb=AA817843 /gi=2887723 /ug=Rn.1131 /len=818	Nuclear.	CCAAT-binding transcription factor subunit A (CBF-A) (NF-Y proteinchain B) (NF-YB) (CAAT- box DNA binding protein subunit B).
AA8178 54	4763	P13635	4764	M13699	4765	P00450	4766	86.44	GPI-anchored ceruloplasmin	AF202115	rc_AA817854 UI-R-A0-ae-g-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A0-ae-g-10-Q-UI /clone_end=3 /gb=AA817854 /gi=2946779 /ug=Rn.8598 /len=438		Ceruloplasmin precursor (EC 1.16.3.1) (Ferroxidase).
AA8179 97	4767	P38863	4768	AA380579	4769	P38863	4770	91	ribosomal protein L24	X78443	rc_AA817897 UI-R-A0-ah-b-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A0-ah-b-07-Q-UI /clone_end=3 /gb=AA817897 /gi=2887877 /ug=Rn.1214 /len=564		60S ribosomal protein L24 (L30).
AA8179 97	4771	P38863	4772	AA380579	4773	P38863	4774	91	ribosomal protein L24	X78443	rc_AA817897 UI-R-A0-ah-b-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A0-ah-b-07-Q-UI /clone_end=3 /gb=AA817897 /gi=2887877 /ug=Rn.1214 /len=564		60S ribosomal protein L24 (L30).
AA8180 25	4775	P27274	4776	AF052941	4777	NP_000 602	4778	92.06	CD59 antigen	NM_01292 5	rc_AA818025 UI-R-A0-ai-a-06-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-ai-a- 06-Q-UI /clone_end=3 /gb=AA818025 /gi=2887805 /ug=Rn.1231 /len=487	Attached to the membrane by a GPI- anchor.	CD59 glycoprotein precursor (Membrane attack complex inhibitorfactor) (MACIF) (MAC- inhibitory protein) (MAC- IP) (Protectin).

Table 2.

AA818025	4779	P27274	4780	AF052941	4781	NP_000602	4782	92.06	CD59 antigen	NM_012925	rc_AA818025 UI-R-A0-a-a-06-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-a-a-06-Q-UI /clone_end=3 /gb=AA818025 /gi=2887805 /ug=Rn.1231 /len=487	Attached to the membrane by a GPI-anchor.	CD59 glycoprotein precursor (Membrane attack complex inhibition factor) (MACIF) (MAC-inhibitory protein) (MAC-IP) (Protectin).
AA818162	4783	P10111	4784	AA071425	4785	P05092	4786	95.02	Cyclophilin	rc_AA818152 UI-R-A0-am-b-09-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-am-b-09-Q-UI /clone_end=3 /gb=AA818152 /gi=2888032 /ug=Rn.16465 /len=117	Cytoplasmic.	Peptidyl-prolyl cis-trans isomerase A (EC 5.2.1.8) (PPIase) (Rotamase)(Cyclophilin A) (Cyclosporin A-binding protein) (P31).	
AA818593	4787	NP_071983	4788	D29641	4789	P42285	4790	91.88	Phosphatidate phosphohydrolase type 2	NM_022538	rc_AA818593 UI-R-A0-bc-g-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-bc-g-01-Q-UI /clone_end=3 /gb=AA818593 /gi=2889332 /ug=Rn.1944 /len=475		
AA818593	4791	NP_071983	4792	D29641	4793	P42285	4794	91.88	Phosphatidate phosphohydrolase type 2	NM_022538	rc_AA818593 UI-R-A0-bc-g-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-bc-g-01-Q-UI /clone_end=3 /gb=AA818593 /gi=2889332 /ug=Rn.1944 /len=475		

Table 2.

AA818677	4795	P16884	4796	BC014185	4797	XP_037942	4798	89.73	Rat heavy neurofilament subunit (NF-H) mRNA, 3' end	M21984	rc_AA818677 UI-R-A0-az-a-04-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-az-a-04-O-UI /clone_end=3 /gb=AA818677 /gi=2888263 /ug=Rn.1429 /len=601	Neurofilament triplet H protein (200 kDa neurofilament protein)(Neurofilament heavy polypeptide) (NF-H) (Fragment).
AA818726	4799	No Rat Protein Found.	4803	U37221	4800	NP_055152	4801	88.62	Homo sapiens peptidylprolyl isomerase (cyclophilin)-like 2		rc_AA818726 UI-R-A0-ay-f-04-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-ay-f-04-O-UI /clone_end=3 /gb=AA818726 /gi=2888312 /ug=Rn.22468 /len=464	
AA818843	4802	NP_063972	4803	XM_031570		XP_031570		99	postsynaptic protein CRIPT	NM_019807	rc_AA818843 UI-R-A0-ar-g-04-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-ar-g-04-O-UI /clone_end=3 /gb=AA818843 /gi=2888429 /ug=Rn.12394 /len=452	
AA818858	4804	P10111	4805	AA071425	4806	P05092	4807	95.02	Peptidylprolyl isomerase A (cyclophilin A)	NM_017101	rc_AA818858 UI-R-A0-ar-h-08-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-ar-h-08-O-UI /clone_end=3 /gb=AA818858 /gi=2888444 /ug=Rn.1463 /len=611	Cytoplasmic. Peptidyl-prolyl cis-trans isomerase A (EC 5.2.1.8) (PPIase) (Rotamase)(Cyclophilin A) (Cyclosporin A-binding protein) (P31).

Table 2.

AA8193 38	4808	Q07984	4808	Z69043	4810	P51571	4811	87.92	Signal sequence receptor, delta	rc_AA819338 UI-R-A0-bc-o-12-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- A0-bc-o-12-O-UI /clone_end=3 /gb=AA819338 /gi=2889427 /ug=Rn.1999 /len=544	Type I membrane protein. Endoplasmic reticulum.	"Translocon- associated protein, delta subunit precursor (TRAP- delta)(Signal sequence receptor delta subunit) (SSR- delta)."
AA8193 38	4812	Q07984	4813	Z69043	4814	P51571	4815	87.92	Signal sequence receptor, delta	rc_AA819338 UI-R-A0-bc-o-12-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- A0-bc-o-12-O-UI /clone_end=3 /gb=AA819338 /gi=2889427 /ug=Rn.1999 /len=544	Type I membrane protein. Endoplasmic reticulum.	"Translocon- associated protein, delta subunit precursor (TRAP- delta)(Signal sequence receptor delta subunit) (SSR- delta)."
AA8193 38	4816	Q07984	4817	Z69043	4818	P51571	4819	87.92	Signal sequence receptor, delta	rc_AA819338 UI-R-A0-bc-o-12-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- A0-bc-o-12-O-UI /clone_end=3 /gb=AA819338 /gi=2889427 /ug=Rn.1999 /len=544	Type I membrane protein. Endoplasmic reticulum.	"Translocon- associated protein, delta subunit precursor (TRAP- delta)(Signal sequence receptor delta subunit) (SSR- delta)."

Table 2.

AA819338	4820	Q07984	4821	Z69043	4822	P51571	4823	87.92	Signal sequence receptor, delta	BC003335	rc_AA819338 UI-R-A0-bc-c-12-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-bc-c-12-O-UI /clone_end=3 /gb=AA819338 /gi=2889427 /ug=Rn.1999 /len=544	Type I membrane protein. Endoplasmic reticulum.	"Translocated associated protein, delta subunit precursor (TRAP-delta) (Signal sequence receptor delta subunit) (SSR-delta)." "
AA819500	4824	AAH03335	4825	M87339	4826	P35249	4827	91.87	ESTs, Highly similar to AC12_HUMAN	BC003335	rc_AA819500 UI-R-A0-bi-c-04-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-bi-c-04-O-UI /clone_end=3 /gb=AA819500 /gi=2889589 /ug=Rn.17046 /len=524		
AA819500	4828	AAH03335	4829	M87339	4830	P35249	4831	91.87	ESTs, Highly similar to AC12_HUMAN	BC003335	rc_AA819500 UI-R-A0-bi-c-04-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-bi-c-04-O-UI /clone_end=3 /gb=AA819500 /gi=2889589 /ug=Rn.17046 /len=524		
AA819500	4832	AAH03335	4833	M87339	4834	P35249	4835	91.87	ESTs, Highly similar to AC12_HUMAN	BC003335	rc_AA819500 UI-R-A0-bi-c-04-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-bi-c-04-O-UI /clone_end=3 /gb=AA819500 /gi=2889589 /ug=Rn.17046 /len=524		

Table 2.

AA819500	4836	AAH03335	4837	M87339	4838	P35249	4839	91.87	ESTs, Highly similar to AC12_HUMAN	BC003335	rc_AA819500 UI-R-A0-bi-c-04-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-bi-c-04-O-UI /clone_end=3 /gb=AA819500 /lg=2888589 /ug=Rn.17046 /len=524		
AA848545	4840	NP_062719	4841	BC002508	4842	AAH02506	4843	100	ACTIVATOR 1 37 KD SUBUNIT [H.sapiens] programmed cell death 10 (Pcd10)	NM_019745	rc_AA848545 EST191305 Rattus norvegicus cDNA, 3' end /clone=RKAC85 /clone_end=3 /gb=AA848545 /lg=2838085 /ug=Rn.1178 /len=565		
AA848831	4844	Q61130	4845	NM_001401	4846	Q92633	4847	89.94	putative G-protein coupled receptor GPCR91	AF080347	rc_AA848831 EST191592 Rattus norvegicus cDNA, 3' end /clone=RLUAG81 /clone_end=3 /gb=AA848831 /lg=2936371 /ug=Rn.11200 /len=525	Integral membrane protein.	Lysophosphatidyl c acid receptor (EDG-2) (REC1.3) (VZG-1).
AA849038	4848	P12947	4849	BC001663	4850	NP_000984	4851	96.25	Ribosomal protein L31	NM_022506	rc_AA849038 EST191800 Rattus norvegicus cDNA, 3' end /clone=RLUJ181 /clone_end=3 /gb=AA849038 /lg=2836578 /ug=Rn.1101 /len=581		60S ribosomal protein L31.
AA849648	4852	P20280	4853	X04790	4854	P10398	4855	92.86	Rattus norvegicus ribosomal protein L21 mRNA, complete cds		rc_AA849648 EST192415 Rattus norvegicus cDNA, 3' end /clone=RMUJH28 /clone_end=3 /gb=AA849648 /lg=2837188 /ug=Rn.2654 /len=413		60S ribosomal protein L21.
AA849648	4856	P20280	4857	X04790	4858	P10398	4859	92.86	Rattus norvegicus ribosomal protein L21 mRNA, complete cds		rc_AA849648 EST192415 Rattus norvegicus cDNA, 3' end /clone=RMUJH28 /clone_end=3 /gb=AA849648 /lg=2837188 /ug=Rn.2654 /len=413		60S ribosomal protein L21.

Table 2.

AA8496 48	4860	P20280	4861	X04780	4862	P10398	4863	92.86	Rattus norvegicus ribosomal protein L21 mRNA, complete cds	tc_AA849648 EST192415 Rattus norvegicus cDNA, 3' end /clone=RMUAH28 /clone_end=3 /gb=AA849648 /gl=2937188 /ug=Rn.2554 /len=413	60S ribosomal protein L21.
AA8498 48	4864	P20280	4865	X04780	4866	P10398	4867	92.86	Rattus norvegicus ribosomal protein L21 mRNA, complete cds	tc_AA849848 EST192415 Rattus norvegicus cDNA, 3' end /clone=RMUAH28 /clone_end=3 /gb=AA849848 /gl=2937188 /ug=Rn.2554 /len=413	60S ribosomal protein L21.
AA8497 69	4868	Q62632	4869	U06863	4870	Q12841	4871	93	Follistatin- related protein precursor	tc_AA849769 EST192536 Rattus norvegicus cDNA, 3' end /clone=RMUA164 /clone_end=3 /gb=AA849769 /gl=2937309 /ug=Rn.2979 /len=608	Follistatin- related protein 1 precursor.
AA8497 69	4872	Q62632	4873	U06863	4874	Q12841	4875	93	Follistatin- related protein precursor	tc_AA849769 EST192536 Rattus norvegicus cDNA, 3' end /clone=RMUA164 /clone_end=3 /gb=AA849769 /gl=2937309 /ug=Rn.2979 /len=608	Follistatin- related protein 1 precursor.
AA8497 69	4876	Q62632	4877	U06863	4878	Q12841	4879	93	Follistatin- related protein precursor	tc_AA849769 EST192536 Rattus norvegicus cDNA, 3' end /clone=RMUA164 /clone_end=3 /gb=AA849769 /gl=2937309 /ug=Rn.2979 /len=608	Follistatin- related protein 1 precursor.
AA8497 69	4880	Q62632	4881	U06863	4882	Q12841	4883	93	Follistatin- related protein precursor	tc_AA849769 EST192536 Rattus norvegicus cDNA, 3' end /clone=RMUA164 /clone_end=3 /gb=AA849769 /gl=2937309 /ug=Rn.2979 /len=608	Follistatin- related protein 1 precursor.
AA8501 38	4884	B27390	4885	AJ318022	4886	P01842	4887	68	Ig lambda-2 chain C region	tc_AA850138 EST192905 Rattus norvegicus cDNA, 3' end /clone=ROVAC84 /clone_end=3 /gb=AA850138 /gl=2937678 /ug=Rn.129 /len=474	Follistatin- related protein 1 precursor.



Table 2.

AA850734	4888	P16612	4889	XM_052676	XP_052676			Vascular endothelial growth factor	NM_009505	rc_AA850734 EST193502 Rattus norvegicus cDNA, 3' end /clone=ROVAK16 /clone_end=3 /gb=AA850734 /gi=2838274 /ug=Rn.1923 /len=477	"VEGF-A120 is acidic and freely secreted. VEGF-A164 is more basic, has heparin-binding properties and, although a significant proportion remains cell-associated, most is freely secreted. VEGF-A188 is ver"	Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
AA850781	4890	No Rat Protein Found.			4891	4892	93.89	Mus musculus 18 days embryo cDNA, RIKEN		rc_AA850781 EST193549 Rattus norvegicus cDNA, 3' end /clone=ROVAK70 /clone_end=3 /gb=AA850781 /gi=2838321 /ug=Rn.7895 /len=550		
AA850940	4893	P50878	4894	L20868	4895	4896	92	Ribosomal protein L4		rc_AA850840 EST193708 Rattus norvegicus cDNA, 3' end /clone=ROVAK065 /clone_end=3 /gb=AA850940 /gi=2838480 /ug=Rn.1133 /len=619		60S ribosomal protein L4 (L1).
AA851381	4897	Q62639	4898	AW020414	4899	4900	94.63	Ras homolog enriched in brain		rc_AA851381 EST194149 Rattus norvegicus cDNA, 3' end /clone=RPLAF91 /clone_end=3 /gb=AA851381 /gi=2838921 /ug=Rn.859 /len=618		GTP-binding protein Rheb.

Table 2.

AA851403	4901	NP_080337	4902	BI488555	4903	XP_030429	94.34	ESTs, Moderately similar to JEO382 NADH dehydrogenas e [H.sapiens]	rc_AA851403 EST194171 Rattus norvegicus cDNA, 3 end /clone=RPLAG17 /clone_end=3 /gb=AA851403 /gi=2938943 /ug=Rn.3383 /len=393		
AA851403	4904	NP_080337	4905	BI488555	4906	XP_030429	94.34	Homo sapiens NADH dehydrogenas e (ubiquinone) 1 beta subcomplex, 8	rc_AA851403 EST194171 Rattus norvegicus cDNA, 3 end /clone=RPLAG17 /clone_end=3 /gb=AA851403 /gi=2938943 /ug=Rn.3383 /len=393		
AA851403	4907	NP_080337	4908	BI488555	4909	XP_030429	94.34	ESTs, Moderately similar to JEO382 NADH dehydrogenas e [H.sapiens]	rc_AA851403 EST194171 Rattus norvegicus cDNA, 3 end /clone=RPLAG17 /clone_end=3 /gb=AA851403 /gi=2938943 /ug=Rn.3383 /len=393		
AA851403	4910	NP_080337	4911	BI488555	4912	XP_030429	94.34	Homo sapiens NADH dehydrogenas e (ubiquinone) 1 beta subcomplex, 8	rc_AA851403 EST194171 Rattus norvegicus cDNA, 3 end /clone=RPLAG17 /clone_end=3 /gb=AA851403 /gi=2938943 /ug=Rn.3383 /len=393		
AA852004	4913	P09806	4914	XM_046468		XP_046468	92	Glutamine synthetase	rc_AA852004 EST194773 Rattus norvegicus cDNA, 3 end /clone=RSPAP38 /clone_end=3 /gb=AA852004 /gi=2939544 /ug=Rn.2204 /len=368	Cytoplasmic.	Glutamine synthetase (EC 6.3.1.2) (Glutamate- ammonia ligase).

Table 2.

AA8520 55	4915	P55146	4916	U02566	4917	Q06418	4918	88.67	Sky - brain specific tyrosine kinase		rc_AA852055 EST194824 Rattus norvegicus cDNA, 3' end /clone=RSAP96 /clone_end=3 /gb=AA852055 /gi=2939595 /ug=Rn.8883 /len=484	Type I membrane protein.	Tyrosine-protein kinase receptor TYRO3 precursor (EC 2.7.1.112)(Tyros ine-protein kinase SKY).
AA8565 72	4919	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA856572 UI-R-E0-bq-f04-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-bq-f 04-O-UI /clone_end=3 /gb=AA856572 /gi=29488912 /ug=Rn.83 /len=436		
AA8585 86	4920	AAC40 052	4921	U56402	4922	P51809	4923	88.09	Mus musculus chromatin structural protein homolog Supt5hp	U88539	rc_AA858586 UI-R-E0-bq-g-07-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-bq-g-07-O-UI /clone_end=3 /gb=AA858586 /gi=29488926 /ug=Rn.92 /len=413		
AA8585 86	4924	AAC40 052	4925	U56402	4926	P51809	4927	88.09	Mus musculus chromatin structural protein homolog Supt5hp	U88539	rc_AA858586 UI-R-E0-bq-g-07-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-bq-g-07-O-UI /clone_end=3 /gb=AA858586 /gi=29488926 /ug=Rn.92 /len=413		
AA8586 07	4928	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA858607 UI-R-E0-bq-a-08-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-bq-a-08-O-UI /clone_end=3 /gb=AA858607 /gi=2948947 /ug=Rn.3532 /len=487		
AA8586 17	4929	NP_075 764	4930	AK027278	4931	XP_050 746	4932	91	TC10-like Rho GTPase	NM_02327 5	rc_AA858617 UI-R-E0-bq-b-08-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-bq-b-08-O-UI /clone_end=3 /gb=AA858617 /gi=2948957 /ug=Rn.22615 /len=546		

Table 2.

AA858640	4933	No Rat Protein Found.	4935	AB009398	4936	Q8UNM6	4937	90.48	Rat CDK110 mRNA (Y17319) / HSP60 (NM_022228) (Double cDNA)	NM_011875	rc_AA858640 UI-R-E0-bq-d-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bq-d-08-Q-UI /clone_end=3 /gb=AA858640 /gi=2948980 /ug=Rn.221 /len=463		
AA858879	4934	NP_036005	4935	AB009398	4936	Q8UNM6	4937	90.48	Mus musculus proteasome (prosome, macropain) 26S subunit, non-ATPase, 13 (Psm13)	NM_011875	rc_AA858879 UI-R-A0-bd-b-09-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-bd-b-09-Q-UI /clone_end=3 /gb=AA858879 /gi=2948230 /ug=Rn.16918 /len=520		
AA859483	4938	No Rat Protein Found.	4939	AW905020	4939	No Human Protein Found.		92.08	EST (not recognized)		rc_AA859483 UI-R-E0-bv-f-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bv-f-07-Q-UI /clone_end=3 /gb=AA859483 /gi=2949003 /ug=Rn.231 /len=416		
AA859524	4940	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA859524 UI-R-E0-br-b-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-br-b-07-Q-UI /clone_end=3 /gb=AA859524 /gi=2949044 /ug=Rn.261 /len=482		
AA859529	4941	Q8ERM3	4942	BI521353	4943	XP_035370	4944	89.11	Diacylglycerol acyltransferase	AF296131	rc_AA859529 UI-R-E0-br-b-12-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-br-b-12-Q-UI /clone_end=3 /gb=AA859529 /gi=2949049 /ug=Rn.252 /len=431	Integral membrane protein. Endoplasmic reticulum .	Diacylglycerol O-acyltransferase 1 (EC 2.3.1.20) (Diglycerideacyltransferase).

Table 2.

AA8595 81	4945	AAD16 986	4946	NIM_0314 76	4947	NP_113 664	4948	86	Rattus norvegicus late gestation lung protein 1 (Lgt1) mRNA, complete cds	AF109674	rc_AA859581 UI-R-EO-bv-d-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-bv-d-01-Q-UI /clone_end=3 /gb=AA859581 /gi=2849101 /ug=Rn.4346 /len=540
AA8595 81	4949	AAD16 986	4950	NIM_0314 76	4951	NP_113 664	4952	86	Rattus norvegicus late gestation lung protein 1 (Lgt1) mRNA, complete cds	AF109674	rc_AA859581 UI-R-EO-bv-d-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-bv-d-01-Q-UI /clone_end=3 /gb=AA859581 /gi=2849101 /ug=Rn.4346 /len=540
AA8595 97	4953	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA859597 UI-R-EO-bs-e-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-bs-e-07-Q-UI /clone_end=3 /gb=AA859597 /gi=2849117 /ug=Rn.8504 /len=464
AA8595 97	4954	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA859597 UI-R-EO-bs-e-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-bs-e-07-Q-UI /clone_end=3 /gb=AA859597 /gi=2849117 /ug=Rn.8504 /len=464
AA8596 27	4955	No Rat Protein Found.		AB046797	4956	No Human Protein Found.		97.14	EST (not recognized)		rc_AA859627 UI-R-EO-bs-h-03-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-bs-h-03-Q-UI /clone_end=3 /gb=AA859627 /gi=2849147 /ug=Rn.25 /len=419
AA8596 32	4957	NP_035 388	4958	L23320	4959	AAA161 21	4960		Mus musculus replication factor C, 140 kDa (Recct1)	NIM_01125 8	rc_AA859632 UI-R-EO-bs-h-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-bs-h-08-Q-UI /clone_end=3 /gb=AA859632 /gi=2849152 /ug=Rn.6208 /len=446

Table 2.

AA859665	4961	No Rat Protein Found.	4961	No human homolog found.	4964	No Human Protein Found.	4965	90.35	Mus musculus adult male testis cDNA, RIKEN	NM_016709	rc_AA859665 UI-R-E0-bx-c-09-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bx-c-09-0-UI /clone_end=3 /gb=AA859665 /gi=2949185 /ug=Rn.43 /len=400	
AA859688	4962	NP_057918	4963	X79888	4964	NP_001689	4965	90.35	AU RNA-binding protein/fenoyl-coenzyme A hydratase	NM_016709	rc_AA859688 UI-R-E0-bx-e-09-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bx-e-09-0-UI /clone_end=3 /gb=AA859688 /gi=2949208 /ug=Rn.50 /len=438	
AA859690	4966	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognized)		rc_AA859690 UI-R-E0-bx-e-11-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bx-e-11-0-UI /clone_end=3 /gb=AA859690 /gi=2949210 /ug=Rn.51 /len=419	
AA859693	4967	No Rat Protein Found.		AK001631	4968	No Human Protein Found.	4969	88.52	EST (not recognized)		rc_AA859693 UI-R-E0-bx-f-02-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bx-f-02-0-UI /clone_end=3 /gb=AA859693 /gi=2949213 /ug=Rn.24864 /len=505	
AA859702	4970	Q01205	4971	A1184508	4972	P55196	4973	95.76	Atadin (AF-6)	NM_013217	rc_AA859702 UI-R-E0-bx-g-01-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bx-g-01-0-UI /clone_end=3 /gb=AA859702 /gi=2949222 /ug=Rn.58 /len=486	Mitochondrial Dihydrolipoamide succinyltransferase component of 2-oxoglutarate dehydrogenase complex, mitochondrial precursor (EC 2.3.1.61) (E2)(E2K)."
AA859718	4974	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA859718 UI-R-E0-bx-h-05-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bx-h-05-0-UI /clone_end=3 /gb=AA859718 /gi=2949238 /ug=Rn.68 /len=476	

Table 2.

AA8597 19	4975	NP_079 750	4976	No human homolog found.					EST, weakly similar to Mus musculus mitochondrial ribosomal protein S14	NM_02547 4	rc_AA859719 UI-R-E0-bx-h-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-bx-h-08-Q-UI /clone_end=3 /gb=AA859719 /gi=2949239 /ug=Rn.67 /len=514		
AA8597 40	4977	BAA892 48	4978	XM_01769 8	4979	XP_017 698	4980	84	heparan sulfate 6- sulfotransfera se 1	AB024566	rc_AA859740 UI-R-E0-bx-b-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-bx-b-08-Q-UI /clone_end=3 /gb=AA859740 /gi=2949260 /ug=Rn.22626 /len=418		
AA8597 50	4981	No Rat Protein Found.		AI671553	4982	No Human Protein Found.		95.88	EST (not recognized)		rc_AA859750 UI-R-E0-bx-c-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-bx-c-05-Q-UI /clone_end=3 /gb=AA859750 /gi=2949270 /ug=Rn.7937 /len=441		
AA8597 83	4983	P09898	4984	NM_0210 29	4985	NP_066 357	4986	100	Rattus norvegicus large subunit ribosomal protein L36a	NM_03110 5	rc_AA859783 UI-R-E0-bu-f-04-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bu-f- 04-Q-UI /clone_end=3 /gb=AA859783 /gi=2949303 /ug=Rn.755 /len=480	Cytoplasmic.	60S ribosomal protein L44 (L38a).
AA8597 88	4987	BAB409 98	4988	AK026165	4989	P82912	4990	86.49	Mus musculus MRPS11 mRNA for mitochondrial ribosomal protein S11	AB049945	rc_AA859788 UI-R-E0-bu-f-11-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bu-f- 11-Q-UI /clone_end=3 /gb=AA859788 /gi=2949308 /ug=Rn.759 /len=423		
AA8598 05	4991	No Rat Protein Found.		L21186	4992	Q08397	4993	94.04	Mus musculus, Similar to lysyl oxidase-like 1, clone IMAGE:34887 91		rc_AA859805 UI-R-E0-bu-h-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-bu-h-10-Q-UI /clone_end=3 /gb=AA859805 /gi=2949325 /ug=Rn.770 /len=433		
AA8598 27	4994	BAA830 85	4995	BF745219	4996	P04155	4997	93.27	uridine- cytidine kinase 2		rc_AA859827 UI-R-E0-cc-f-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cc-f- 10-Q-UI /clone_end=3 /gb=AA859827 /gi=2949347 /ug=Rn.24811 /len=500		

Table 2.

AA859832	4998	No Rat Protein Found.	AI139056	4999	No Human Protein Found.	91	Mus musculus 18 days embryo cDNA, RIKEN	rc_AA859832 UI-R-E0-cc-g-04-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cc-g-04-O-UI /clone_end=3 /gb=AA859832 /gi=2949352 /ug=Rn.22318 /len=558	Arrestin-D (Fragment).
AA859837	5000	P36577	5001	5002	Q9Y2T3	87.87	Guanine deaminase	rc_AA859837 UI-R-E0-cc-g-09-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cc-g-09-O-UI /clone_end=3 /gb=AA859837 /gi=2949357 /ug=Rn.24783 /len=486	Arrestin-D (Fragment).
AA859837	5004	P36577	5005	5006	Q9Y2T3	87.87	Guanine deaminase	rc_AA859837 UI-R-E0-cc-g-09-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cc-g-09-O-UI /clone_end=3 /gb=AA859837 /gi=2949357 /ug=Rn.24783 /len=486	Arrestin-D (Fragment).
AF031381	5008	AAB86495	5009	5010	NP_060809	5011	Mus musculus KOI-4 gene, partial cds	rc_AA859848 UI-R-E0-cc-h-10-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cc-h-10-O-UI /clone_end=3 /gb=AA859848 /gi=2949368 /ug=Rn.790 /len=649	
AA859897	5012	AF304855	5013	5014	XP_007325	92	sel-1 (suppressor of lin-12, C.elegans)-like (SEL1L),	rc_AA859897 UI-R-E0-cg-a-01-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cg-a-01-O-UI /clone_end=3 /gb=AA859897 /gi=2949417 /ug=Rn.808 /len=582	



Table 2.

AA8599 11	5016	Q11205	5017	X96667	5018	JC5251	5019	87.89	Sialyltransferase ss 5	tc_AA859911 UI-R-E0-cg-b-05-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cg-b-05-O-UI /clone_end=3 /gb=AA859911 /gi=2949431 /ug=Rn.24851 /len=447	"TYPE II MEMBRANE PROTEIN. MEMBRANE- BOUND FORM IN TRANS CISTERNAE OF GOLGI, SOLUBLE FORM IN BODY FLUIDS."	"CMP-N- acetylneuramini- de-beta- galactosamide- alpha-2,3- sialyltransferase (EC 2.4.99.-) (Beta- galactoside alpha-2,3- sialyltransferase ) (Alpha2,3-ST) (Gal-NAc6S) (Gal-beta-1,3- GalNAc-alpha- 2,3-sialyltransf"
AA8599 11	5020	Q11205	5021	X96667	5022	JC5251	5023	87.89	Sialyltransferase ss 5	tc_AA859911 UI-R-E0-cg-b-05-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cg-b-05-O-UI /clone_end=3 /gb=AA859911 /gi=2949431 /ug=Rn.24851 /len=447	"TYPE II MEMBRANE PROTEIN. MEMBRANE- BOUND FORM IN TRANS CISTERNAE OF GOLGI, SOLUBLE FORM IN BODY FLUIDS."	"CMP-N- acetylneuramini- de-beta- galactosamide- alpha-2,3- sialyltransferase (EC 2.4.99.-) (Beta- galactoside alpha-2,3- sialyltransferase ) (Alpha2,3-ST) (Gal-NAc6S) (Gal-beta-1,3- GalNAc-alpha- 2,3-sialyltransf"

Table 2.

AA8599 19	5024	No Rat Protein Found.	AV699259	5025	No Human Protein Found.	93.81	Homo sapiens clone 015h12 My015 protein	rc_AA859919 UI-R-EO-cg-d-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-d-01-Q-UI /clone_end=3 /gb=AA859919 /gi=2949439 /ug=Rn.2696 /len=474
AA8599 19	5026	No Rat Protein Found.	AV699259	5027	No Human Protein Found.	93.81	Homo sapiens clone 015h12 My015 protein	rc_AA859919 UI-R-EO-cg-d-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-d-01-Q-UI /clone_end=3 /gb=AA859919 /gi=2949439 /ug=Rn.2696 /len=474
AA8599 21	5028	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		28S ribosomal RNA	rc_AA859921 UI-R-EO-cg-d-03-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-d-03-Q-UI /clone_end=3 /gb=AA859921 /gi=2949441 /ug=Rn.14551 /len=314
AA8599 31	5029	No Rat Protein Found.	BC001080	5030	No Human Protein Found.	5031	Mus musculus 10, 11 days embryo cDNA, RIKEN	rc_AA859931 UI-R-EO-cg-d-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-d-01-Q-UI /clone_end=3 /gb=AA859931 /gi=2949451 /ug=Rn.822 /len=506
AA8599 31	5032	No Rat Protein Found.	BC001080	5033	No Human Protein Found.	5034	Mus musculus 10, 11 days embryo cDNA, RIKEN	rc_AA859931 UI-R-EO-cg-d-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-d-01-Q-UI /clone_end=3 /gb=AA859931 /gi=2949451 /ug=Rn.822 /len=506
AA8599 33	5036	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST(not recognised)	rc_AA859933 UI-R-EO-cg-d-03-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-d-03-Q-UI /clone_end=3 /gb=AA859933 /gi=2949453 /ug=Rn.824 /len=517
AA8599 33	5036	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST(not recognised)	rc_AA859933 UI-R-EO-cg-d-03-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-d-03-Q-UI /clone_end=3 /gb=AA859933 /gi=2949453 /ug=Rn.824 /len=517

Table 2.

AA8599 33	5037	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	5041	91.27	EST(not recognised)	rc_AA859933 UI-R-E0-cg-d-03-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-d-03-Q-UI /clone_end=3 /gb=AA859933 /gi=2849453 /ug=Rn.824 /len=517
AA8599 33	5038	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	5040	5041	EST(not recognised)	rc_AA859933 UI-R-E0-cg-d-03-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-d-03-Q-UI /clone_end=3 /gb=AA859933 /gi=2849463 /ug=Rn.824 /len=517
AA8599 37	5039	No Rat Protein Found.	AI581056	5040	5043	5044	EST (not recognized)	rc_AA859937 UI-R-E0-cg-d-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cg-d-07-Q-UI /clone_end=3 /gb=AA859937 /gi=2849457 /ug=Rn.828 /len=419
AA8599 37	5042	No Rat Protein Found.	AI581056	5046	5048	5049	EST (not recognized)	rc_AA859951 UI-R-E0-ca-e-09-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ca-e-09-Q-UI /clone_end=3 /gb=AA859951 /gi=2849471 /ug=Rn.837 /len=462
AA8599 51	5045	No Rat Protein Found.	R40468	No Human Protein Found.	5046	5049	EST (not recognized)	rc_AA859952 UI-R-E0-ca-e-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ca-e-10-Q-UI /clone_end=3 /gb=AA859952 /gi=2849472 /ug=Rn.22632 /len=443
AA8599 52	5047	No Rat Protein Found.	BC007384	5048	5048	5049	Homo sapiens similar to early development regulator 2	rc_AA859954 UI-R-E0-ca-f-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ca-f- 01-Q-UI /clone_end=3 /gb=AA859954 /gi=2849474 /ug=Rn.840 /len=519
AA8599 54	5050	No Rat Protein Found.	AK024969	5051	5051	5052	Homo sapiens HSPC292 mRNA, partial cds	rc_AA859966 UI-R-E0-ca-g-03-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ca-g-03-Q-UI /clone_end=3 /gb=AA859966 /gi=2849486 /ug=Rn.861 /len=392
AA8599 66	5053	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	5051	5052	Strong homology with 18S rRNA (V01270)	

Table 2.

AA8599 82	5054	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	rc_AA859982 UI-R-EO-ca-h-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ca-h-10-Q-UI /clone_end=3 /gb=AA859982 /gi=2949502 /ug=Rn.18658 /len=532
AA8599 96	5055	No Rat Protein Found.	AB046773	5056	5056	87.59 Homo sapiens cDNA: FLJ23343 fls, clone HEP13562	rc_AA859998 UI-R-EO-ca-b-04-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ca-b-04-Q-UI /clone_end=3 /gb=AA859998 /gi=2949516 /ug=Rn.22634 /len=553
AA8600 10	5057	AAH11 490	5058 NIM_0007 42	5059	Q15822	77 Similar to cholinergic receptor, nicotinic, alpha polypeptide 2 (neuronal)	rc_AA860010 UI-R-EO-ca-o-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ca-o-07-Q-UI /clone_end=3 /gb=AA860010 /gi=2949530 /ug=Rn.872 /len=400
AA8600 15	5061	No Rat Protein Found.	F34867	5062	XP_002 616	95.2 ESTs, Weakly similar to TS0607 hypothetical protein DKFZp434110 16.1 [H.sapiens]	rc_AA860015 UI-R-EO-ca-o-12-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ca-o-12-Q-UI /clone_end=3 /gb=AA860015 /gi=2949535 /ug=Rn.857 /len=580
AA8600 17	5063	CAA76 850	5064 BC001969	5065	AAC395 75	92.55 Mus musculus mRNA for Dutt1 protein (strong homology to Roundabout 1)	rc_AA860017 UI-R-EO-ca-d-02-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ca-d-02-Q-UI /clone_end=3 /gb=AA860017 /gi=2949537 /ug=Rn.876 /len=528
AA8600 44	5067	AAH03 203	5068 Z93930	5069	CAB450 16		rc_AA860044 UI-R-EO-bz-f-12-Q-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R-EO-bz-f- 12-Q-UI /clone_end=3 /gb=AA860044 /gi=2949564 /ug=Rn.883 /len=442

Table 2.

AA8600 49	5071	No Rat Protein Found.	5073	No human homolog found.	5074	No Human Protein Found.	5075	72	Mus musculus adult male colon cDNA, RIKEN	NM_01715 8	rc_AA860049 UI-R-EO-bz-g-05-O-JI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-bz-g-05-O-JI /clone_end=3 /gb=AA860049 /gi=2949569 /ug=Rn.898 /len=375
AA8662 40	5072	AAA410 36	5073	NM_0007 69	5074	P33261	5075	72	cytochrome P450 mRNA	NM_01715 8	rc_AA866240 UI-R-AO-bg-g-05-O-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- AO-bg-g-05-O-JI /clone_end=3 /gb=AA866240 /gi=2961686 /ug=Rn.3010 /len=291
AA8662 40	5076	AAA410 36	5077	NM_0007 69	5078	P33261	5079	72	cytochrome P450 mRNA	NM_01715 8	rc_AA866240 UI-R-AO-bg-g-05-O-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- AO-bg-g-05-O-JI /clone_end=3 /gb=AA866240 /gi=2961686 /ug=Rn.3010 /len=291
AA8662 40	5080	AAA410 36	5081	NM_0007 69	5082	P33261	5083	72	cytochrome P450 mRNA	NM_01715 8	rc_AA866240 UI-R-AO-bg-g-05-O-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- AO-bg-g-05-O-JI /clone_end=3 /gb=AA866240 /gi=2961686 /ug=Rn.3010 /len=291
AA8662 40	5084	AAA410 36	5085	NM_0007 69	5086	P33261	5087	72	cytochrome P450 mRNA	NM_01715 8	rc_AA866240 UI-R-AO-bg-g-05-O-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- AO-bg-g-05-O-JI /clone_end=3 /gb=AA866240 /gi=2961686 /ug=Rn.3010 /len=291
AA8662 57	5088	AAH05 733	5089	No human homolog found.	5092	No Human Protein Found.	5093	94.64	Rat EST (mouse hypothetical protein)	NM_01698 9	rc_AA866257 UI-R-AO-bd-g-09-O-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- AO-bd-g-09-O-JI /clone_end=3 /gb=AA866257 /gi=2961718 /ug=Rn.3025 /len=420
AA8662 76	5090	NP_058 665	5091	AK027693	5092	Q86S97	5093	94.64	myeloid- associated differentiation marker (weakly similar)	NM_01698 9	rc_AA866276 UI-R-AO-bg-b-08-O-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- AO-bg-b-08-O-JI /clone_end=3 /gb=AA866276 /gi=2961737 /ug=Rn.3035 /len=476
AA8662 99	5094	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA866299 UI-R-AO-ac-f-12-O-JI.s3 Rattus norvegicus cDNA, 3 end /clone=UI-R-AO-ac-f- 12-O-JI /clone_end=3 /gb=AA866299 /gi=2961760 /ug=Rn.3048 /len=385

Table 2.

AA866299	5095	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA866299 UI-R-A0-ac-f-12-Q-UI.s3 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-ac-f-12-Q-UI /clone_end=3 /gb=AA866299 /gi=2861760 /ug=Rn.3049 /len=395
AA866308	5096	No Rat Protein Found.		BG281391	5097	No Human Protein Found.	90	EST (not recognised)		rc_AA866308 UI-R-A0-ac-g-09-Q-UI.s3 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-ac-g-09-Q-UI /clone_end=3 /gb=AA866308 /gi=2861767 /ug=Rn.3054 /len=251
AA866358	5098	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST (not recognised)		rc_AA866358 UI-R-A0-bm-b-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-bm-b-07-Q-UI /clone_end=3 /gb=AA866358 /gi=2861819 /ug=Rn.3077 /len=239
AA866358	5099	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST (not recognised)		rc_AA866358 UI-R-A0-bm-b-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-bm-b-07-Q-UI /clone_end=3 /gb=AA866358 /gi=2861819 /ug=Rn.3077 /len=239
AA866371	5100	BAB22140	5101	AW408241	5102	No Human Protein Found.	96.15	RIKEN full-length cDNA (mouse) with myb transforming protein domain	AK002491	rc_AA866371 UI-R-A0-bm-d-03-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-bm-d-03-Q-UI /clone_end=3 /gb=AA866371 /gi=2861832 /ug=Rn.7220 /len=381
AA866371	5103	BAB22140	5104	AW408241	5105	No Human Protein Found.	98.15	RIKEN full-length cDNA (mouse) with myb transforming protein domain	AK002491	rc_AA866371 UI-R-A0-bm-d-03-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-bm-d-03-Q-UI /clone_end=3 /gb=AA866371 /gi=2861832 /ug=Rn.7220 /len=381
AA866409	5106	No Rat Protein Found.		XM_031553	5107	XP_031553	84	Homo sapiens KIAA0332 protein (KIAA0332)		rc_AA866409 UI-R-E0-ch-a-03-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ch-a-03-Q-UI /clone_end=3 /gb=AA866409 /gi=2861870 /ug=Rn.21410 /len=467

Table 2.

AA8664 19	5109	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST not recognized	rc_AA866419 UI-R-E0-ch-q-04-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ch-q-04-Q-UI /clone_end=3 /gb=AA866419 /gi=2961880 /ug=Rn.3099 /len=520
AA8664 39	5110	No Rat Protein Found.	AK057056	5111	No Human Protein Found.	91.07	EST(not recognised)	rc_AA866439 UI-R-E0-ch-q-02-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ch-q-02-Q-UI /clone_end=3 /gb=AA866439 /gi=2961900 /ug=Rn.3109 /len=248
AA8664 39	5112	No Rat Protein Found.	AK057056	5113	No Human Protein Found.	81.07	EST(not recognised)	rc_AA866439 UI-R-E0-ch-q-02-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ch-q-02-Q-UI /clone_end=3 /gb=AA866439 /gi=2961900 /ug=Rn.3109 /len=248
AA8664 44	5114	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST (not recognized)	rc_AA866444 UI-R-E0-ch-h-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ch-h-01-Q-UI /clone_end=3 /gb=AA866444 /gi=2961905 /ug=Rn.3112 /len=276
AA8664 54	5115	No Rat Protein Found.	AK000261	5116	No Human Protein Found.	5117	Rat alpha-2(I) Promoter	rc_AA866454 UI-R-E0-br-e-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-br-e- 07-Q-UI /clone_end=3 /gb=AA866454 /gi=2961915 /ug=Rn.3115 /len=516
AA8664 54	5118	No Rat Protein Found.	AK000261	5119	No Human Protein Found.	5120	Rat alpha-2(I) Promoter	rc_AA866454 UI-R-E0-br-e-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-br-e- 07-Q-UI /clone_end=3 /gb=AA866454 /gi=2961915 /ug=Rn.3115 /len=516
AA8664 71	5121	AAH08 539	AK022744	5123	BAB142 19	5124	Unnamed protein product	rc_AA866471 UI-R-E0-br-g-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-br-g- 08-Q-UI /clone_end=3 /gb=AA866471 /gi=2961932 /ug=Rn.3120 /len=537
AA8747 91	5125	NP_035 847	AL390184	5127	XP_034 356	94.44	hypothetical gene supported by AK027615	rc_AA874791 UI-R-E0-bw-f-06-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-bw-f-06-Q-UI /clone_end=3 /gb=AA874791 /gi=2979739 /ug=Rn.3125 /len=436

Table 2.

AA8747 94	5128	AA8751 30	5129	NM_0143 80	5130	P00001	5131	90.1	p75NTR- associated cell death executor; NADE	AF187085	rc_AA874784 UI-R-E0-bw-f-10-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- EO-bw-f-10-Q-UI /clone_end=3 /gb=AA874784 /gi=2879742 /ug=Rn.3126 /len=523	
AA8747 94	5132	AA8751 30	5133	NM_0143 80	5134	P00001	5135	90.1	p75NTR- associated cell death executor; NADE	AF187085	rc_AA874784 UI-R-E0-bw-f-10-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- EO-bw-f-10-Q-UI /clone_end=3 /gb=AA874784 /gi=2879742 /ug=Rn.3126 /len=523	
AA8748 02	5136	P43278	5137	NM_0053 18	5138	P07305	5139	94	histone H10 (H1 subtype)	X70685	rc_AA874802 UI-R-E0-bw-g-07-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- EO-bw-g-07-Q-UI /clone_end=3 /gb=AA874802 /gi=2879750 /ug=Rn.3129 /len=536	Nuclear.
AA8748 03	5140	No Rat Protein Found.		NC_00180 7		NP_008 352		89	ESTs, Moderately similar to 0806162L protein URF5 [M.musculus]		rc_AA874803 UI-R-E0-bw-g-08-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- EO-bw-g-08-Q-UI /clone_end=3 /gb=AA874803 /gi=2879751 /ug=Rn.3130 /len=524	
AA8748 03	5141	No Rat Protein Found.		NC_00180 7		NP_008 352		89	ESTs, Moderately similar to 0806162L protein URF5 [M.musculus]		rc_AA874803 UI-R-E0-bw-g-08-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- EO-bw-g-08-Q-UI /clone_end=3 /gb=AA874803 /gi=2879751 /ug=Rn.3130 /len=524	
AA8748 27	5142	No Rat Protein Found.		D13633	5143	Q15398	5144		ESTs, Weakly similar to Y008_HUMAN HYPOTHETIC AL PROTEIN KIAA0008 [H.sapiens]		rc_AA874827 UI-R-E0-cg-e-12-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- EO-cg-e-12-Q-UI /clone_end=3 /gb=AA874827 /gi=2879775 /ug=Rn.3137 /len=477	
AA8748 73	5145	NP_084 537	5146	A1497723	5147	No Human Protein Found.		97.33	EST (mouse hypothetical protein)		rc_AA874873 UI-R-E0-cl-d-11-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cl-d- 11-Q-UI /clone_end=3 /gb=AA874873 /gi=2879821 /ug=Rn.3156 /len=568	Histone H1.0 (H1(O)) (Histone H1').



Table 2.

AA8748 73	5148	No Rat Protein Found.	AI497723	5149	No Human Protein Found.	97.33	Mus musculus, clone MGC:7182 IMAGE:34816 73	rc_AA874873 UI-R-E0-cl-d-11-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cl-d- 11-Q-UI /clone_end=3 /gb=AA874873 /gi=2979821 /ug=Rn.3156 /len=568
AA8748 73	5150	NP_084 537	AI497723	5152	No Human Protein Found.	97.33	EST (mouse hypothetical protein)	rc_AA874873 UI-R-E0-cl-d-11-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cl-d- 11-Q-UI /clone_end=3 /gb=AA874873 /gi=2979821 /ug=Rn.3156 /len=568
AA8748 73	5153	No Rat Protein Found.	AI497723	5154	No Human Protein Found.	97.33	Mus musculus, clone MGC:7182 IMAGE:34816 73	rc_AA874873 UI-R-E0-cl-d-11-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cl-d- 11-Q-UI /clone_end=3 /gb=AA874873 /gi=2979821 /ug=Rn.3156 /len=568
AA8748 74	5155	AAC52 763	M29872	5157	P11766	89.3	ESTs, Highly similar to ALCOHOL DEHYDROGE NASE CLASS III [R.norvegicus]	rc_AA874874 UI-R-E0-cl-d-12-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cl-d- 12-Q-UI /clone_end=3 /gb=AA874874 /gi=2979822 /ug=Rn.3157 /len=513
AA8748 74	5159	AAC52 763	M29872	5161	P11766	89.3	ESTs, Highly similar to ALCOHOL DEHYDROGE NASE CLASS III [R.norvegicus]	rc_AA874874 UI-R-E0-cl-d-12-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cl-d- 12-Q-UI /clone_end=3 /gb=AA874874 /gi=2979822 /ug=Rn.3157 /len=513
AA8748 97	5163	NP_077 794	No human homolog found.		No Human Protein Found.		EST in rat (Mouse hypothetical protein MGC7475)	rc_AA874897 UI-R-E0-cl-d-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cl-d-05-Q-UI /clone_end=3 /gb=AA874897 /gi=2979846 /ug=Rn.3167 /len=420

Table 2.

AA8749 24	5165	NP_034 875	5166	AB020499	5167	O95711	5168	88.19	lymphocyte antigen 86 (Ly86)	NM_01074 5	rc_AA874924 UI-R-E0-ck-h-02-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ck-h-02-Q-UI /clone_end=3 /gb=AA874924 /ug=2979872 /ug=Rn.3176 /len=525
AA8749 26	5169	No Rat Protein Found.		AJ006470	5170	O75718	5171	92.65	Homo sapiens mRNA; cDNA DKFZp434M1 616		rc_AA874928 UI-R-E0-ck-h-06-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ck-h-06-Q-UI /clone_end=3 /gb=AA874928 /gi=2979874 /ug=Rn.808 /len=477
AA8749 34	5172	BAA234 30	5173	NM_0035 86	5174	NP_003 577	5175	79	Doc2	D50000	rc_AA874934 UI-R-E0-cl-o-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cl-o- 05-Q-UI /clone_end=3 /gb=AA874934 /gi=2979882 /ug=Rn.3179 /len=333
AA8749 82	5176	BAA110 34	5177	XM_01716 3		XP_017 163		96	scg (karyopherin beta)	D67015	rc_AA874982 UI-R-E0-cl-o-06-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cl-o- 06-Q-UI /clone_end=3 /gb=AA874982 /gi=2979930 /ug=Rn.3195 /len=519
AA8749 93	5178	No Rat Protein Found.		XM_04114 2		XP_041 142		95	Homo sapiens ubiquitin protein ligase E3A (human papilloma virus E6- associated protein, Angelman syndrome)		rc_AA874993 UI-R-E0-cl-d-06-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cl-d- 06-Q-UI /clone_end=3 /gb=AA874993 /gi=2979941 /ug=Rn.22108 /len=439
AA8749 95	5179	NP_077 792	5180	XM_03752 9		XP_037 529		100	Hypothetical protein MGCT473 [Mus musculus]	NM_02447 2	rc_AA874995 UI-R-E0-cl-d-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cl-d- 08-Q-UI /clone_end=3 /gb=AA874995 /gi=2979943 /ug=Rn.3197 /len=525

Table 2.

AA8750 04	5181	No Rat Protein Found.	BC006350	5182	XP_052 115	5183	92.25	Hypothetical Protein	AB033168	rc_AA875004 UI-R-E0-cb-b-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cb-b-07-Q-UI /clone_end=3 /gb=AA875004 /gi=2979952 /ug=Rn.2147 /len=402		
AA8750 19	5184	BAA851 82	5185	5186	P49750	5187		Nuclear protein ZAP	AB033168	rc_AA875019 UI-R-E0-cb-f-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cb-f- 08-Q-UI /clone_end=3 /gb=AA875019 /gi=2979967 /ug=Rn.3204 /len=513		
AA8750 19	5188	BAA851 82	5189	5190	P49750	5191		Nuclear protein ZAP	AB033168	rc_AA875018 UI-R-E0-cb-f-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cb-f- 08-Q-UI /clone_end=3 /gb=AA875019 /gi=2979967 /ug=Rn.3204 /len=513		
AA8750 23	5192	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA875023 UI-R-E0-cb-f-12-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cb-f- 12-Q-UI /clone_end=3 /gb=AA875023 /gi=2979971 /ug=Rn.2954 /len=519		
AA8750 25	5193	NP_038 524	5194	5195	P29762	5196	91.89	Mus musculus cellular retinoic acid binding protein I (Crabp1)	NM_01349 6	rc_AA875025 UI-R-E0-cb-g-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cb-g-08-Q-UI /clone_end=3 /gb=AA875025 /gi=2979973 /ug=Rn.3207 /len=469		
AA8750 33	5197	Q9WVH 8	5198	5199	Q9UBX5	5200	94.22	Fibulin 5		rc_AA875033 UI-R-E0-cb-h-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cb-h-10-Q-UI /clone_end=3 /gb=AA875033 /gi=2979981 /ug=Rn.1699 /len=440	Secreted.	Fibulin-5 precursor (FBL- 5) (Developmental arterias and neural crestEGF like protein) (Dance) (Embryonic vascular EGF repeat- containingproteol n) (EVEG).

Table 2.

AA8750 33	5201	Q8WVH 8	5202	NM_0063 29	5203	Q8UBX5	5204	84.22	Fibulin 5		rc_AA875033 UI-R-EQ-cb-h-10-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- EQ-cb-h-10-Q-UI /clone_end=3 /gb=AA875033 /gi=2979981 /ug=Rn.1699 /len=440	Secreted.	Fibulin-5 precursor (FIBL- 5) (Developmental arteries and neural crestEGF like protein) (Dance) (Embryonic vascular EGF repeat- containingprotei n) (EVEC).
AA8750 37	5205	S19896	5206	L40378	5207	P50453	5208	76	ESTs, Weakly similar to PLASMINOG EN ACTIVATOR INHIBITOR-2, TYPE A [R.norvegicus]		rc_AA875037 UI-R-EQ-cb-a-03-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- EQ-cb-a-03-Q-UI /clone_end=3 /gb=AA875037 /gi=2979985 /ug=Rn.2559 /len=534		
AA8750 40	5209	AAH05 726	5210	NM_0314 65	5211	NP_113 663	5212	64	Mus musculus, clone IMAGE:35955 95	BC005726	rc_AA875040 UI-R-EQ-cb-b-01-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- EQ-cb-b-01-Q-UI /clone_end=3 /gb=AA875040 /gi=2979988 /ug=Rn.1747 /len=639		
AA8750 43	5213	Q63572	5214	AF478317	5215	Q15569	5216	91.45	Testis specific protein kinase 1		rc_AA875043 UI-R-EQ-cb-c-01-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- EQ-cb-c-01-Q-UI /clone_end=3 /gb=AA875043 /gi=2979991 /ug=Rn.7008 /len=359		Testis-specific protein kinase 1 (EC 2.7.1.-).

Table 2.

AA8750 50	5217	O54783	5218	AB028885	5219	Q9Y259	5220	32	ESTs, Weakly similar to KICE RAT CHOLINE/ET HANOLAMIN E KINASE [R.norvegicus]	S46763	rc_AA875050 UI-R-E0-cb-d-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cb-d-05-Q-UI /clone_end=3 /gb=AA875050 /gi=2879988 /ug=Rn.3218 /len=530	Cytoplasmic.	"T-complex protein 1, alpha subunit (TCP-1- alpha) (CCT- alpha)." alpha)
AA8750 54	5221	P28480	5222	BG198443	5223	AAH124 98	5224	90.05	Tcp-1=α- complex polypeptide 1	S46763	rc_AA875054 UI-R-E0-cb-e-04-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cb-e-04-Q-UI /clone_end=3 /gb=AA875054 /gi=2880002 /ug=Rn.24874 /len=485		
AA8750 59	5225	No Rat Protein Found.		R67025	5226	No Human Protein Found.		92.91	EST (not recognised)		rc_AA875059 UI-R-E0-cb-f-04-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cb-f- 04-Q-UI /clone_end=3 /gb=AA875059 /gi=2880007 /ug=Rn.3224 /len=480		
AA8750 69	5227	P06351	5228	XM_01116 5		XP_011 165		97	Histone H3.3	X73683	rc_AA875089 UI-R-E0-cb-h-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cb-h-05-Q-UI /clone_end=3 /gb=AA875089 /gi=2880017 /ug=Rn.3342 /len=643		Histone H3.3 (H3.A) (H3.B) (H3.3Q).
AA8750 90	5229	No Rat Protein Found.		NM_0175 95	5230	NP_060 065	5231		I-kappa-B- interacting Ras-like protein 2 (KBRAS2		rc_AA875080 UI-R-E0-cf-g-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cf-g- 01-Q-UI /clone_end=3 /gb=AA875080 /gi=2880038 /ug=Rn.15038 /len=481		

Table 2.

AA875099	5232	O08587	5233	NM_007172	5234	Q9UKX7	5235	65.95	nucleoporin 501	NM_012991	rc_AA875089 UI-R-E0-cf-g-11-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cf-g-11-O-UI /clone_end=3 /gb=AA875089 /gi=2980047 /ug=Rn.3242 /len=448	"Nuclear. Localizes to the nucleoplasmic fibrils of the nuclear pore complex. In the testis, the localization changes during germ cell differentiation; from the nuclear surface in spermatocytes to the"	Nucleoporin 50 kDa (Nuclear pore-associated protein 60 kDa-like).
AA875005	5236	No Rat Protein Found.	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)					rc_AA875105 UI-R-E0-cf-h-08-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cf-h-08-O-UI /clone_end=3 /gb=AA875105 /gi=2980053 /ug=Rn.3245 /len=435		
AA875007	5237	No Rat Protein Found.	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus adult male tongue cDNA, RIKEN					rc_AA875107 UI-R-E0-cf-h-08-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cf-h-08-O-UI /clone_end=3 /gb=AA875107 /gi=2980055 /ug=Rn.3263 /len=542		

Table 2.

AA8751 21	5238	Q62725	5239	AK055329	5240	A56356	95.41	CCAAT binding factor of CBF-CNFY C		rc_AA875121 UI-R-E0-bu-b-08-O-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-bu-b-08-O-UI /clone_end=3 /gb=AA875121 /gi=2980069 /ug=Rn.1457 /len=573	Nuclear.	Nuclear transcription factor Y subunit gamma (NF-Y protein chain C)(Nuclear factor YC) (NF- YC) (CCAAT- binding transcription factorsubunit C) (CBF-C).
AA8751 24	5241	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST (not recognized)		rc_AA875124 UI-R-E0-bu-b-06-O-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-bu-b-06-O-UI /clone_end=3 /gb=AA875124 /gi=2980072 /ug=Rn.2798 /len=119		
AA8751 27	5242	BAB262 50	5243	NM_0037 18	5244	Q14004	97.14	CDC2L5 protein kinase (Rat EST; mouse hypothetical protein)		rc_AA875127 UI-R-E0-bu-b-05-O-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-bu-b-05-O-UI /clone_end=3 /gb=AA875127 /gi=2980075 /ug=Rn.18698 /len=579		
AA8751 27	5246	BAB262 50	5247	NM_0037 18	5248	Q14004	97.14	CDC2L5 protein kinase	AK009373	rc_AA875127 UI-R-E0-bu-b-05-O-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-bu-b-05-O-UI /clone_end=3 /gb=AA875127 /gi=2980075 /ug=Rn.18698 /len=579		
AA8751 27	5250	BAB262 50	5251	NM_0037 18	5252	Q14004	97.14	CDC2L5 protein kinase (Rat EST; mouse hypothetical protein)		rc_AA875127 UI-R-E0-bu-b-05-O-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-bu-b-05-O-UI /clone_end=3 /gb=AA875127 /gi=2980075 /ug=Rn.18698 /len=579		
AA8751 27	5254	BAB262 50	5255	NM_0037 18	5256	Q14004	97.14	CDC2L5 protein kinase	AK009373	rc_AA875127 UI-R-E0-bu-b-05-O-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-bu-b-05-O-UI /clone_end=3 /gb=AA875127 /gi=2980075 /ug=Rn.18698 /len=579		

Table 2.

AA8751 35	5258	P51646	5259	AF100740	5260	Q9Y689	5261	99	R.norvegicus (Sprague Dawley) ARL5 mRNA for ARF-like protein 5	rc_AA875135 UI-R-E0-bu-f-01-Q-UJ.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bu-f- 01-Q-UJ /clone_end=3 /gb=AA875135 /gi=2980083 /ug=Rn.2803 /len=581	ADP- ribosylation factor-like protein 5.
AA8751 47	5262	No Rat Protein Found.		D87440	5263	No Human Protein Found.		97.44	Mus musculus 10 days neonate cerebellum cDNA, RIKEN	rc_AA875147 UI-R-E0-bu-h-03-Q-UJ.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-bu-h-03-Q-UJ /clone_end=3 /gb=AA875147 /gi=2980095 /ug=Rn.766 /len=470	
AA8751 48	5264	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA875148 UI-R-E0-bu-h-05-Q-UJ.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-bu-h-05-Q-UJ /clone_end=3 /gb=AA875148 /gi=2980098 /ug=Rn.767 /len=500	
AA8751 92	5265	NP_079 642	5266	No human homolog found.		No Human Protein Found.			Rat EST; mouse hypothetical protein from a Riken	rc_AA875192 UI-R-E0-cu-e-10-Q-UJ.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cu-e-10-Q-UJ /clone_end=3 /gb=AA875192 /gi=2980140 /ug=Rn.2820 /len=545	
AA8751 98	5267	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)	rc_AA875188 UI-R-E0-cu-e-07-Q-UJ.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cu-e-07-Q-UJ /clone_end=3 /gb=AA875188 /gi=2980146 /ug=Rn.2826 /len=513	
AA8752 06	5268	BAA922 67	5269	NM_0530 67	5270	NP_038 466	5271	90.91	DA41	rc_AA875208 UI-R-E0-cu-e-07-Q-UJ.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cu-e-07-Q-UJ /clone_end=3 /gb=AA875208 /gi=2980154 /ug=Rn.2830 /len=510	
AA8752 07	5272	P11517	5273	BG311786	5274	P02023	5275	93.18	Hemoglobin, beta	rc_AA875207 UI-R-E0-cu-e-10-Q-UJ.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cu-e-10-Q-UJ /clone_end=3 /gb=AA875207 /gi=2980155 /ug=Rn.11417 /len=445	"Hemoglobin beta chain, minor-form."



Table 2.

AA8752 17	5276	No Rat Protein Found.		BF512741	5277	No Human Protein Found.		95.22	EST (not recognized)	rc_AA875217 UI-R-E0-cu-g-08-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-cu-g-08-Q-UI /clone_end=3 /gb=AA875217 /gi=2980165 /ug=Rn.2836 /len=405	"Guanine nucleotide- binding protein G(i), alpha-2 subunit (Adenylylating G se-inhibiting G alpha protein)."
AA8752 25	5278	P04897	5278	AK055574	5280	P04899	5281	96.38	Mus musculus, clone IMAGE:35830 47	rc_AA875225 UI-R-E0-cq-a-08-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-cq-a-08-Q-UI /clone_end=3 /gb=AA875225 /gi=2980173 /ug=Rn.3036 /len=421	"Guanine nucleotide- binding protein G(i), alpha-2 subunit (Adenylylating G se-inhibiting G alpha protein)."
AA8752 25	5282	P04897	5283	AK055574	5284	P04899	5285	96.38	Mus musculus, clone IMAGE:35830 47	rc_AA875225 UI-R-E0-cq-a-08-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-cq-a-08-Q-UI /clone_end=3 /gb=AA875225 /gi=2980173 /ug=Rn.3036 /len=421	"Guanine nucleotide- binding protein G(i), alpha-2 subunit (Adenylylating G se-inhibiting G alpha protein)."
AA8752 53	5286	P41276	5287	L28997	5288	P40616	5289	91.8	Mus musculus adult male tongue cDNA, RIKEN	rc_AA875253 UI-R-E0-cq-d-08-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-cq-d-08-Q-UI /clone_end=3 /gb=AA875253 /gi=2980201 /ug=Rn.3065 /len=523	ADP- ribosylation factor-like protein 1.
AA8752 63	5290	No Rat Protein Found.		AF015308	5291	g320196 4	5292	90.45	ESTs, Highly similar to cell cycle- regulated factor p78 [H.sapiens]	rc_AA875263 UI-R-E0-ce-a-08-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-ce-a-08-Q-UI /clone_end=3 /gb=AA875263 /gi=2980211 /ug=Rn.2727 /len=452	

Table 2.

AA8752 68	5293	No Rat Protein Found.	BG875079	5294	XP_027 422	90.1	ESTs, Highly similar to NUKM_HUMA N NADH- UBIQUINONE OXIDOREDU CTASE 20 KDA SUBUNIT PRECURSOR [H.sapiens]	rc_AA875268 UI-R-E0-ce-b-04-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-ce-b-04-Q-UI /clone_end=3 /gb=AA875268 /gi=2980216 /ug=Rn.2855 /len=449
AA8752 69	5295	NP_114 029	AF097514	5297	O00767	83	Rattus norvegicus stearyl-CoA desaturase 2 (Scd2)	rc_AA875269 UI-R-E0-ce-b-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-ce-b-05-Q-UI /clone_end=3 /gb=AA875269 /gi=2980217 /ug=Rn.2827 /len=510
AA8752 75	5299	No Rat Protein Found.	AA761673	5300	No Human Protein Found.	87.5	EST(not recognised)	rc_AA875275 UI-R-E0-ce-c-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-ce-c-01-Q-UI /clone_end=3 /gb=AA875275 /gi=2980223 /ug=Rn.24938 /len=535
AA8752 78	5301	No Rat Protein Found.	AF265210	5302	XP_011 449	87	Homo sapiens Fanconi anemia, complementati on group E (FANCE)	rc_AA875278 UI-R-E0-ce-c-09-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-ce-c-09-Q-UI /clone_end=3 /gb=AA875278 /gi=2980226 /ug=Rn.2861 /len=530
AA8752 78	5304	No Rat Protein Found.	AF265210	5305	XP_011 449	87	Homo sapiens Fanconi anemia, complementati on group E (FANCE)	rc_AA875278 UI-R-E0-ce-c-09-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-ce-c-09-Q-UI /clone_end=3 /gb=AA875278 /gi=2980226 /ug=Rn.2861 /len=530
AA8753 27	5307	AAD34 858	D26068	5309	Q15056	95.33	Mus musculus LIM-kinase1 (Limk1)	rc_AA875327 UI-R-E0-cn-h-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cn-h-05-Q-UI /clone_end=3 /gb=AA875327 /gi=2980275 /ug=Rn.2880 /len=377

Table 2.

AA8753 27	5311	AAD34 858	5312	D26088	5313	Q15056	5314	95.33	Mus musculus LIM-kinase1 (Limk1)	AF139987	rc_AA875327 UI-R-E0-cn-h-05-O-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cn-h-05-O-JI /clone_end=3 /gb=AA875327 /gi=2980275 /ug=Rn.2880 /len=377
AA8753 27	5315	AAD34 858	5316	D26088	5317	Q15056	5318	95.33	Mus musculus LIM-kinase1 (Limk1)	AF139987	rc_AA875327 UI-R-E0-cn-h-05-O-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cn-h-05-O-JI /clone_end=3 /gb=AA875327 /gi=2980275 /ug=Rn.2880 /len=377
AA8753 27	5319	AAD34 858	5320	D26088	5321	Q15056	5322	95.33	Mus musculus LIM-kinase1 (Limk1)	AF139987	rc_AA875327 UI-R-E0-cn-h-05-O-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cn-h-05-O-JI /clone_end=3 /gb=AA875327 /gi=2980275 /ug=Rn.2880 /len=377
AA8753 48	5323	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA875348 UI-R-E0-co-b-06-O-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-co-b-06-O-JI /clone_end=3 /gb=AA875348 /gi=2980296 /ug=Rn.2887 /len=455
AA8753 62	5324	No Rat Protein Found.		AA808851	5325	No Human Protein Found.		96.55	EST (not recognized)		rc_AA875362 UI-R-E0-co-c-10-O-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-co-c-10-O-JI /clone_end=3 /gb=AA875362 /gi=2980310 /ug=Rn.2894 /len=402
AA8754 25	5326	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Human DNA sequence from clone RP5-1169J3		rc_AA875425 UI-R-E0-cs-f-07-O-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cs-f- 07-O-JI /clone_end=3 /gb=AA875425 /gi=2980373 /ug=Rn.2915 /len=521
AA8754 28	5327	No Rat Protein Found.		NM_0221 71	5328	No Human Protein Found.		84.21	EST (not recognized)		rc_AA875428 UI-R-E0-cs-f-12-O-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cs-f- 12-O-JI /clone_end=3 /gb=AA875428 /gi=2980376 /ug=Rn.2916 /len=477
AA8754 44	5329	Q62950	5330	XM_04808 0		XP_048 080			Dihydropyrim dinase-like 2 [collapsin response mediator protein 1].		rc_AA875444 UI-R-E0-cp-a-08-O-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cp-a-08-O-JI /clone_end=3 /gb=AA875444 /gi=2980392 /ug=Rn.2889 /len=383

Table 2.

AA875444	5331	Q62850	5332	XM_048080	XP_048080				Dihydropyrimidinase-like 2 [collapsin response mediator protein 1].		rc_AA875444 UI-R-E0-cp-a-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cp-a-08-Q-UI /clone_end=3 /gb=AA875444 /gi=2980392 /ug=Rn.2889 /len=383
AA875495	5333	No Rat Protein Found.		BI495246	5334	No Human Protein Found.	97.06	EST (not recognized)			rc_AA875495 UI-R-E0-ct-b-04-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ct-b-04-Q-UI /clone_end=3 /gb=AA875495 /gi=2980443 /ug=Rn.1876 /len=495
AA875495	5335	No Rat Protein Found.		BI495246	5336	No Human Protein Found.	97.06	EST (not recognized)			rc_AA875495 UI-R-E0-ct-b-04-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ct-b-04-Q-UI /clone_end=3 /gb=AA875495 /gi=2980443 /ug=Rn.1876 /len=495
AA875496	5337	No Rat Protein Found.		AA521144	5338	No Human Protein Found.	89.42	Mus musculus 10 days neonate cerebellum cDNA, RIKEN			rc_AA875498 UI-R-E0-ct-b-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ct-b-05-Q-UI /clone_end=3 /gb=AA875498 /gi=2980444 /ug=Rn.2836 /len=456
AA875500	5339	No Rat Protein Found.		XM_047123	XP_047123	5341		Homo sapiens KIAA1460 protein			rc_AA875500 UI-R-E0-ct-b-11-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ct-b-11-Q-UI /clone_end=3 /gb=AA875500 /gi=2980448 /ug=Rn.2857 /len=459
AA875506	5342	No Rat Protein Found.		No human homolog found.	No Human Protein Found.			M.musculus gMCK2alphaC pseudogene	X82233		rc_AA875506 UI-R-E0-ct-o-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ct-o-05-Q-UI /clone_end=3 /gb=AA875506 /gi=2980454 /ug=Rn.22771 /len=513
AA875511	5343	No Rat Protein Found.		BF980184	5344	No Human Protein Found.	93.27	EST(not recognised)			rc_AA875511 UI-R-E0-ct-o-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ct-o-10-Q-UI /clone_end=3 /gb=AA875511 /gi=2980459 /ug=Rn.2940 /len=378

Table 2.

AA8755 52	5345	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		Mus musculus, clone MGC:7764 IMAGE:34989 02, mRNA, complete cds		rc_AA875552 UI-R-E0-cv-h-12-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cv-h-12-Q-UI /clone_end=3 /gb=AA875552 /gi=2980500 /ug=Rn.2955 /len=602
AA8755 63	5346	NP_033 063	5347	BI626212	5348	XP_054 015	89.91	NM_00903 7	rc_AA875563 UI-R-E0-cv-b-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cv-b-08-Q-UI /clone_end=3 /gb=AA875563 /gi=2980511 /ug=Rn.3276 /len=472
AA8755 98	5349	No Rat Protein Found.		U58088	5350	Q13617	96.72		rc_AA875598 UI-R-E0-cv-b-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cv-b-08-Q-UI /clone_end=3 /gb=AA875598 /gi=2980548 /ug=Rn.2970 /len=409
AA8756 15	5352	No Rat Protein Found.		U09215	5353	Q06265	86.56		rc_AA875616 UI-R-E0-cv-d-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-cv-d-07-Q-UI /clone_end=3 /gb=AA875616 /gi=2980563 /ug=Rn.6562 /len=504
AA8756 30	5355	No Rat Protein Found.		No human homolog found.	No Human Protein Found.				rc_AA875630 UI-R-E0-cv-e-12-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cv- 12-Q-UI /clone_end=3 /gb=AA875630 /gi=2980578 /ug=Rn.2981 /len=396
AA8756 59	5356	NP_062 001	5357	NM_0327 27	5358	Q16352	71	NM_01912 8	rc_AA875659 UI-R-E0-cv-h-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cv- 07-Q-UI /clone_end=3 /gb=AA875659 /gi=2980507 /ug=Rn.10966 /len=424
AA8910 37	5360	R5RT3L	5361	U65581	5362	Q92901	91.3		rc_AA891037 EST194840 Rattus norvegicus cDNA, 3 end /clone=RHEAO17 /clone_end=3 /gb=AA891037 /gi=3017916 /ug=Rn.16548 /len=401

Table 2.

AA8910 49	5384	NP_035 200	5365	NM_0123 94	5366	Q9UHV9	5367	91.46	Prefoldin 2 (Pfdn2)	NM_01107 0	rc_AA891049 EST194852 Rattus norvegicus cDNA, 3' end /clone=RHEAO35 /clone_end=3 /gb=AA891049 /gi=3017928 /ug=Rn.3423 /len=455	"Dynein light intermediate chain 2, cytosolic (LIC53/55) (LIC- 2)."
AA8910 49	5368	NP_035 200	5369	NM_0123 94	5370	Q9UHV9	5371	91.46	Prefoldin 2 (Pfdn2)	NM_01107 0	rc_AA891049 EST194852 Rattus norvegicus cDNA, 3' end /clone=RHEAO35 /clone_end=3 /gb=AA891049 /gi=3017928 /ug=Rn.3423 /len=455	
AA8910 54	5372	No Rat Protein Found.		AW96954 1	5373	P11230	5374	93.91	Mouse 4.5S RNA gene		rc_AA891054 EST194857 Rattus norvegicus cDNA, 3' end /clone=RHEAO44 /clone_end=3 /gb=AA891054 /gi=3017933 /ug=Rn.4287 /len=468	
AA8910 69	5375	NP_033 300	5376	XM_00484 2		XP_004 842		80	serine/arginine rich protein specific kinase 2	NM_00927 4	rc_AA891069 EST194872 Rattus norvegicus cDNA, 3' end /clone=RHEAO81 /clone_end=3 /gb=AA891069 /gi=3017948 /ug=Rn.19443 /len=397	
AA8911 07	5377	AAK292 79	5378	AA287829	5379	NP_061 967	5380	90.41	Diphospholipo sterol polyphosphate phosphohydroly ase type II	AF253473	rc_AA891107 EST194910 Rattus norvegicus cDNA, 3' end /clone=RHEAP20 /clone_end=3 /gb=AA891107 /gi=3017986 /ug=Rn.11627 /len=348	
AA8911 32	5381	Q62698	5382	AF035812	5383	O43237	5384	93.97	LIC-2 dynein light intermediate chain 53/55	NM_03102 6	rc_AA891132 EST194935 Rattus norvegicus cDNA, 3' end /clone=RHEAP54 /clone_end=3 /gb=AA891132 /gi=3018011 /ug=Rn.11100 /len=436	
AA8911 61	5385	No Rat Protein Found.		AK001865	5386	No Human Protein Found.		88.24	EST (not recognized)		rc_AA891161 EST194964 Rattus norvegicus cDNA, 3' end /clone=RHEAP94 /clone_end=3 /gb=AA891161 /gi=3018040 /ug=Rn.7257 /len=448	
AA8911 61	5387	No Rat Protein Found.		AK001865	5388	No Human Protein Found.		88.24	EST (not recognized)		rc_AA891161 EST194964 Rattus norvegicus cDNA, 3' end /clone=RHEAP94 /clone_end=3 /gb=AA891161 /gi=3018040 /ug=Rn.7257 /len=448	

Table 2.

AA8911 71	5389	AAH02 097	5390	BG723290	5391	Q95298	5392	87.27	Mus musculus, Similar to NADH dehydrogenase (ubiquinone) 1	BC002097	rc_AA891171 EST194974 Rattus norvegicus cDNA, 3' end /clone=RHEAQ10 /clone_end=3 /gb=AA891171 /gi=3018050 /ug=Rn.3009 /len=592
AA8912 20	5393	No Rat Protein Found.	5395	No human homolog found.	5396	No Human Protein Found.	5397		EST (not recognized)		rc_AA891220 EST195023 Rattus norvegicus cDNA, 3' end /clone=RHEAQ88 /clone_end=3 /gb=AA891220 /gi=3018099 /ug=Rn.7264 /len=635
AA8912 21	5394	NP_080 580	5395	AK001447	5396	XP_051 185	5397	98.49	Hypothetical protein		rc_AA891221 EST195024 Rattus norvegicus cDNA, 3' end /clone=RHEAQ70 /clone_end=3 /gb=AA891221 /gi=3018100 /ug=Rn.1978 /len=627
AA8912 86	5398	AAD43 039	5399	AJ001050	5400	Q16881	5401	82	NADPH- dependent thioredoxin reductase	AF108213	rc_AA891286 EST195089 Rattus norvegicus cDNA, 3' end /clone=RHEAR95 /clone_end=3 /gb=AA891286 /gi=3018165 /ug=Rn.9474 /len=436
AA8913 08	5402	NP_032 403	5403	AL117666	5404	BC0142 76	5405	96.8	Integral membrane glycoprotein	NIM_00837 7	rc_AA891308 EST195111 Rattus norvegicus cDNA, 3' end /clone=RHEAS28 /clone_end=3 /gb=AA891308 /gi=3018187 /ug=Rn.16305 /len=465
AA8913 14	5406	No Rat Protein Found.		AF176330	5407	P57723	5408		alphaCP-4 (PCBP4)		rc_AA891314 EST195117 Rattus norvegicus cDNA, 3' end /clone=RHEAS38 /clone_end=3 /gb=AA891314 /gi=3018193 /ug=Rn.2683 /len=442
AA8913 22	5409	AAH02 169	5410	X06815	5411	Q9UE46	5412	94.23	Rat EST (mouse hypothetical protein)		rc_AA891322 EST195125 Rattus norvegicus cDNA, 3' end /clone=RHEAS47 /clone_end=3 /gb=AA891322 /gi=3018201 /ug=Rn.7278 /len=438

Table 2.

AA8913 22	5413	No Rat Protein Found.	X06815	5414	Q8UE46	5415	94.23	M.musculus DNA for U1- RNA- associated 70 kDa protein (H).	X17463	rc_AA891322 EST195125 Rattus norvegicus cDNA, 3' end /clone=RHEAS47 /clone_end=3 /gb=AA891322 /gi=3018201 /ug=Rn.7278 /len=438
AA8913 22	5416	AAH02 169	X06815	5418	Q8UE46	5419	94.23	Rat EST (mouse hypothetical protein)		rc_AA891322 EST195125 Rattus norvegicus cDNA, 3' end /clone=RHEAS47 /clone_end=3 /gb=AA891322 /gi=3018201 /ug=Rn.7278 /len=438
AA8913 22	5420	No Rat Protein Found.	X06815	5421	Q8UE46	5422	94.23	M.musculus DNA for U1- RNA- associated 70 kDa protein (H).	X17453	rc_AA891322 EST195125 Rattus norvegicus cDNA, 3' end /clone=RHEAS47 /clone_end=3 /gb=AA891322 /gi=3018201 /ug=Rn.7278 /len=438
AA8914 23	5423	BAB265 96	BC007220	5425	AAH072 20	5426		Hypothetical protein FLJ12118		rc_AA891423 EST195226 Rattus norvegicus cDNA, 3' end /clone=RHEAT94 /clone_end=3 /gb=AA891423 /gi=3018302 /ug=Rn.8868 /len=484
AA8914 45	5427	NP_075 236	AL136909	5429	XP_035 165	5430	88.8	suppressor of K+ transport defect 3 (Skd3),	NM_02284 7	rc_AA891445 EST195248 Rattus norvegicus cDNA, 3' end /clone=RHEAU35 /clone_end=3 /gb=AA891445 /gi=3018324 /ug=Rn.2811 /len=481
AJ4008 47	5431	CAC19 332	No human homolog found.	5432	No Human Protein Found.			EST weakly similar to Mus musculus mRNA for immunoglobulin n-like cell surface receptor FDFACT, activating counterpart	AA891475	rc_AA891475 EST195278 Rattus norvegicus cDNA, 3' end /clone=RHEAU83 /clone_end=3 /gb=AA891475 /gi=3018354 /ug=Rn.3456 /len=508



Table 2.

AA8914 99	5433	No Rat Protein Found.	AC008462	5434	No Human Protein Found.			Homo sapiens chromosome 5 clone CTC- 352J10, complete sequence		rc_AA891499 EST195302 Rattus norvegicus cDNA, 3' end /clone=RHEAZ20 /clone_end=3 /gb=AA891499 /gi=3018378 /ug=Rn.8534 /len=460
AA8915 21	5435	No Rat Protein Found.	AY027526	5436	No Human Protein Found.	5437	83.72	EST (not recognized)		rc_AA891521 EST195324 Rattus norvegicus cDNA, 3' end /clone=RHEAZ48 /clone_end=3 /gb=AA891521 /gi=3018400 /ug=Rn.7289 /len=470
AA8915 21	5438	No Rat Protein Found.	AY027526	5439	No Human Protein Found.	5440	83.72	EST (not recognized)		rc_AA891521 EST195324 Rattus norvegicus cDNA, 3' end /clone=RHEAZ48 /clone_end=3 /gb=AA891521 /gi=3018400 /ug=Rn.7289 /len=470
AA8915 37	5441	BAB238 85	U79274	5442	XP_007 019	5444	89.72	Rat EST (mouse and human hypothetical protein)		rc_AA891537 EST195340 Rattus norvegicus cDNA, 3' end /clone=RHEAZ68 /clone_end=3 /gb=AA891537 /gi=3018416 /ug=Rn.7302 /len=549
AA8915 42	5445	AAC64 141	AK023253	5446	O75953	5448	96.23	Mus musculus heat shock protein hsp40- 3 gene	AF092536	rc_AA891542 EST195345 Rattus norvegicus cDNA, 3' end /clone=RHEAZ72 /clone_end=3 /gb=AA891542 /gi=3018421 /ug=Rn.4189 /len=598
AA8915 53	5449	NP_081 219	BE122841	5450	P28034	5452	96.36	ESTs, Highly similar to IF37 MOUSE EUKARYOTIC TRANSLATIO N INITIATION FACTOR 3 SUBUNIT 7 [M.musculus]	NM_01874 9	rc_AA891553 EST195356 Rattus norvegicus cDNA, 3' end /clone=RHEAZ86 /clone_end=3 /gb=AA891553 /gi=3018432 /ug=Rn.3463 /len=614

Table 2.

AA8915 53	5453	NP_061 219	5454	BE122841	5455	P28034	5456	98.38	ESTs, Highly similar to IF37 MOUSE EUKARYOTIC TRANSLATIO N INITIATION FACTOR 3 SUBUNIT 7 [M.musculus]	NIM_01874 9	rc_AA891553 EST195356 Rattus norvegicus cDNA, 3' end /clone=RHEAZ86 /clone_end=3 /gb=AA891553 /gi=3018432 /ug=Rn.3463 /len=614
AA8915 78	5457	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognized)		rc_AA891578 EST195381 Rattus norvegicus cDNA, 3' end /clone=RKIAE19 /clone_end=3 /gb=AA891578 /gi=3018457 /ug=Rn.19937 /len=410
AA8915 95	5458	No Rat Protein Found.		XM_03837 7	5459	XP_038 377	5460		Rho- associated, coiled-coil containing protein kinase 2		rc_AA891595 EST195398 Rattus norvegicus cDNA, 3' end /clone=RKIAE40 /clone_end=3 /gb=AA891595 /gi=3018474 /ug=Rn.22699 /len=471
AA8915 95	5461	NP_112 360	5462	XM_03837 7	5463	XP_038 377	5464	59	Rho- associated, coiled-coil containing protein kinase 2	NIM_03109 8	rc_AA891595 EST195398 Rattus norvegicus cDNA, 3' end /clone=RKIAE40 /clone_end=3 /gb=AA891595 /gi=3018474 /ug=Rn.22699 /len=471
AA8916 31	5465	No Rat Protein Found.		AB032989	5466	No Human Protein Found.		89.22	EST (not recognized)		rc_AA891631 EST195434 Rattus norvegicus cDNA, 3' end /clone=RKIAE84 /clone_end=3 /gb=AA891631 /gi=3018510 /ug=Rn.14698 /len=327
AA8916 31	5467	No Rat Protein Found.		AB032989	5468	No Human Protein Found.		89.22	EST (not recognized)		rc_AA891631 EST195434 Rattus norvegicus cDNA, 3' end /clone=RKIAE84 /clone_end=3 /gb=AA891631 /gi=3018510 /ug=Rn.14698 /len=327
AA8916 34	5469	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA891634 EST195437 Rattus norvegicus cDNA, 3' end /clone=RKIAE87 /clone_end=3 /gb=AA891634 /gi=3018513 /ug=Rn.14700 /len=384

Table 2.

AA8916 51	5470	No Rat Protein Found.		NIM_0050 03	5471	O14561	5472	95.08	EST (not recognized)		NM_00859 5	rc_AA891651 EST195454 Rattus norvegicus cDNA, 3' end /clone=RK1AF13 /clone_end=3 /gb=AA891651 /gi=3018530 /ug=Rn.1318 /len=499		
AA8916 64	5473	NP_032 621	5474	Z93096	5475	CAB075 11	5476	83	manic fringe homolog (Drosophila) (Ming).			rc_AA891664 EST195467 Rattus norvegicus cDNA, 3' end /clone=RK1AF27 /clone_end=3 /gb=AA891664 /gi=3018543 /ug=Rn.22700 /len=518	Cytoplasmic. Expression shifts from the cytoplasm to the plasma membrane upon stimulation with NGF.	Melanoma- associated antigen D1 (MAGE-D1 antigen) (Neurotrophin receptor- interacting MAGE homolog) (Sertoli cell necdinrelated gene-1) (SNERG-1).
AA8916 66	5477	Q9ES7 3	5478	AK074092	5479	Q9Y5V3	5480	93.08	Similar to EAP30 subunit of ELL complex		BC003938	rc_AA891666 EST195469 Rattus norvegicus cDNA, 3' end /clone=RK1AF29 /clone_end=3 /gb=AA891666 /gi=3018545 /ug=Rn.8501 /len=381	Cytoplasmic. Expression shifts from the cytoplasm to the plasma membrane upon stimulation with NGF.	Melanoma- associated antigen D1 (MAGE-D1 antigen) (Neurotrophin receptor- interacting MAGE homolog) (Sertoli cell necdinrelated gene-1) (SNERG-1).
AA8916 66	5481	Q9ES7 3	5482	AK074092	5483	Q9Y5V3	5484	93.09	Similar to EAP30 subunit of ELL complex		BC003938	rc_AA891666 EST195469 Rattus norvegicus cDNA, 3' end /clone=RK1AF29 /clone_end=3 /gb=AA891666 /gi=3018545 /ug=Rn.8501 /len=381	Cytoplasmic. Expression shifts from the cytoplasm to the plasma membrane upon stimulation with NGF.	Melanoma- associated antigen D1 (MAGE-D1 antigen) (Neurotrophin receptor- interacting MAGE homolog) (Sertoli cell necdinrelated gene-1) (SNERG-1).
AA8916 77	5485	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)			rc_AA891677 EST195480 Rattus norvegicus cDNA, 3' end /clone=RK1AF42 /clone_end=3 /gb=AA891677 /gi=3018556 /ug=Rn.22242 /len=482		

Table 2.

AA891689	5486	No Rat Protein Found.	BM714938	5487	AAF28940	5488	100	HSPC262	rc_AA891689 EST195492 Rattus norvegicus cDNA, 3' end /clone=RKIAF57 /clone_end=3 /gb=AA891689 /gi=3018568 /ug=Rn.14704 /len=421
AA891694	5489	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST(not recognised)	rc_AA891694 EST195497 Rattus norvegicus cDNA, 3' end /clone=RKIAF62 /clone_end=3 /gb=AA891694 /gi=3018573 /ug=Rn.3960 /len=493
AA891700	5490	No Rat Protein Found.	U19252	5491	P48553	5492	93.04	EST (moderately similar to human transmembrane protein)	rc_AA891700 EST195503 Rattus norvegicus cDNA, 3' end /clone=RKIAF69 /clone_end=3 /gb=AA891700 /gi=3018579 /ug=Rn.14708 /len=470
AA891700	5493	No Rat Protein Found.	U19252	5494	P48553	5495	93.04	EST (moderately similar to human transmembrane protein)	rc_AA891700 EST195503 Rattus norvegicus cDNA, 3' end /clone=RKIAF69 /clone_end=3 /gb=AA891700 /gi=3018579 /ug=Rn.14708 /len=470
AA891724	5496	No Rat Protein Found.	XM_046883	5497	XP_046863	5498	89	KIAA0699 protein	rc_AA891724 EST195527 Rattus norvegicus cDNA, 3' end /clone=RKIAG01 /clone_end=3 /gb=AA891724 /gi=3018603 /ug=Rn.17091 /len=523
AA891725	5499	No Rat Protein Found.	BC014953	5500	No Human Protein Found.	5501	88.08	Mus musculus 13 days embryo head cDNA, RIKEN	rc_AA891725 EST195528 Rattus norvegicus cDNA, 3' end /clone=RKIAG02 /clone_end=3 /gb=AA891725 /gi=3018604 /ug=Rn.22702 /len=625
AA891727	5502	No Rat Protein Found.	BC006007	5503	XP_042640	5504	95.11	EST (hypothetical protein)	rc_AA891727 EST195530 Rattus norvegicus cDNA, 3' end /clone=RKIAG04 /clone_end=3 /gb=AA891727 /gi=3018606 /ug=Rn.3418 /len=418
AA891733	5505	No Rat Protein Found.	AF009424	5506	O15165	5507	89.44	EST(not recognised)	rc_AA891733 EST195536 Rattus norvegicus cDNA, 3' end /clone=RKIAG10 /clone_end=3 /gb=AA891733 /gi=3018612 /ug=Rn.8288 /len=664
AA891734	5508	No Rat Protein Found.	AK001539	5509	No Human Protein Found.		89.52	EST(not recognised)	rc_AA891734 EST195537 Rattus norvegicus cDNA, 3' end /clone=RKIAG13 /clone_end=3 /gb=AA891734 /gi=3018613 /ug=Rn.3461 /len=616

Table 2.

AA891735	5510	No Rat Protein Found.	5514	No human homolog found.	5515	No Human Protein Found.	5516	86.68	EST (not recognized)		rc_AA891735 EST195538 Rattus norvegicus cDNA, 3' end /clone=RK1AG14 /clone_end=3 /gb=AA891735 /gi=3018614 /ug=Rn.22703 /len=516		
AA891737	5511	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA891737 EST195540 Rattus norvegicus cDNA, 3' end /clone=RK1AG17 /clone_end=3 /gb=AA891737 /gi=3018616 /ug=Rn.3650 /len=558		
AA891737	5512	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA891737 EST195540 Rattus norvegicus cDNA, 3' end /clone=RK1AG17 /clone_end=3 /gb=AA891737 /gi=3018616 /ug=Rn.3650 /len=558		
AA891738	5513	Q07116	5514	L31573	5515	P51687	5516		Sulfite oxidase		rc_AA891738 EST195541 Rattus norvegicus cDNA, 3' end /clone=RK1AG18 /clone_end=3 /gb=AA891738 /gi=3018617 /ug=Rn.11107 /len=593	Mitochondrial intermembrane space.	"Sulfite oxidase, mitochondrial precursor (EC 1.8.3.1)."
AA891740	5517	NP_057924	5518	No human homolog found.		No Human Protein Found.			Mus musculus thymic stromal derived lymphopoietin receptor (LOW HOMOLOG)	NM_016715	rc_AA891740 EST195543 Rattus norvegicus cDNA, 3' end /clone=RK1AG20 /clone_end=3 /gb=AA891740 /gi=3018619 /ug=Rn.22704 /len=511		
AA891746	5519	NP_067494	5520	AB002283	5521	XP_011773	5522	90	Endothelial differentiation-related factor 1	NM_021519	rc_AA891746 EST195549 Rattus norvegicus cDNA, 3' end /clone=RK1AG28 /clone_end=3 /gb=AA891746 /gi=3018625 /ug=Rn.17092 /len=540		
AA891751	5523	NP_037261	5524	XM_008249	5525	XP_008249	5528	64	Rattus norvegicus Sodium channel, voltage-gated, type III, alpha polypeptide (Scn3a)	NM_013119	rc_AA891751 EST195554 Rattus norvegicus cDNA, 3' end /clone=RK1AG34 /clone_end=3 /gb=AA891751 /gi=3018630 /ug=Rn.11108 /len=569		

Table 2.

AA891760	5527	No Rat Protein Found.	XM_015185	XP_015185	EST (not recognized for rat) - hypothetical protein for human	rc_AA891760 EST195563 Rattus norvegicus cDNA, 3' end /clone=RK1AG45 /clone_end=3 /gb=AA891760 /gi=3018638 /ug=Rn.2343 /len=591
AA891760	5528	No Rat Protein Found.	XM_015185	XP_015185	EST (not recognized for rat)	rc_AA891760 EST195563 Rattus norvegicus cDNA, 3' end /clone=RK1AG45 /clone_end=3 /gb=AA891760 /gi=3018638 /ug=Rn.2343 /len=591
AA891774	5529	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus 10 day old male pancreas cDNA, RIKEN	rc_AA891774 EST195577 Rattus norvegicus cDNA, 3' end /clone=RK1AG61 /clone_end=3 /gb=AA891774 /gi=3018653 /ug=Rn.2080 /len=555
AA891785	5530	AAG43538	U52144	P48735	Mus musculus NADP+-specific isocitrate dehydrogenase	rc_AA891785 EST195588 Rattus norvegicus cDNA, 3' end /clone=RK1AG74 /clone_end=3 /gb=AA891785 /gi=3018664 /ug=Rn.3490 /len=518
AA891785	5534	AAG43538	U52144	P48735	Mus musculus NADP+-specific isocitrate dehydrogenase	rc_AA891785 EST195588 Rattus norvegicus cDNA, 3' end /clone=RK1AG74 /clone_end=3 /gb=AA891785 /gi=3018664 /ug=Rn.3490 /len=518
AA891796	5538	No Rat Protein Found.	AL137721	No Human Protein Found.	Mus musculus ES cells cDNA, RIKEN	rc_AA891796 EST195599 Rattus norvegicus cDNA, 3' end /clone=RK1AG90 /clone_end=3 /gb=AA891796 /gi=3018675 /ug=Rn.1327 /len=571
AA891800	5541	AAH11417	AF217187	AAG36781	Similar to pyrophosphatase (inorganic)	rc_AA891800 EST195603 Rattus norvegicus cDNA, 3' end /clone=RK1AG95 /clone_end=3 /gb=AA891800 /gi=3018679 /ug=Rn.22707 /len=620
AA891800	5545	AAH11417	AF217187	AAG36781	Similar to pyrophosphatase (inorganic)	rc_AA891800 EST195603 Rattus norvegicus cDNA, 3' end /clone=RK1AG95 /clone_end=3 /gb=AA891800 /gi=3018679 /ug=Rn.22707 /len=620

Table 2.

AA8918 02	5549	No Rat Protein Found.	No human homolog found.	5552	No Human Protein Found.	5553	98.35	EST(not recognised)	NM_021540	rc_AA891802 EST195605 Rattus norvegicus cDNA, 3' end /clone=RKIAH01 /clone_end=3 /gb=AA891802 /gi=3018681 /ug=Rn.8316 /len=648
AA8918 10	5550	NP_067 515	5551	5552	NP_060 904	5553	98.35	g1-related zinc finger protein [Mus musculus]	NM_021540	rc_AA891810 EST195613 Rattus norvegicus cDNA, 3' end /clone=RKIAH13 /clone_end=3 /gb=AA891810 /gi=3018689 /ug=Rn.17620 /len=551
AA8918 10	5554	NP_067 515	5555	5556	NP_060 904	5557	98.35	g1-related zinc finger protein [Mus musculus]	NM_021540	rc_AA891810 EST195613 Rattus norvegicus cDNA, 3' end /clone=RKIAH13 /clone_end=3 /gb=AA891810 /gi=3018689 /ug=Rn.17620 /len=551
AA8918 10	5558	NP_067 515	5559	5560	NP_060 904	5561	98.35	g1-related zinc finger protein [Mus musculus]	NM_021540	rc_AA891810 EST195613 Rattus norvegicus cDNA, 3' end /clone=RKIAH13 /clone_end=3 /gb=AA891810 /gi=3018689 /ug=Rn.17620 /len=551
AA8918 10	5562	NP_067 515	5563	5564	NP_060 904	5565	98.35	g1-related zinc finger protein [Mus musculus]	NM_021540	rc_AA891810 EST195613 Rattus norvegicus cDNA, 3' end /clone=RKIAH13 /clone_end=3 /gb=AA891810 /gi=3018689 /ug=Rn.17620 /len=551
AA8918 12	5566	S54147	X58141	5567	S18207	5568	94	ESTs, Highly similar to S54147 alpha adducin - rat [R.norvegicus]		rc_AA891812 EST195615 Rattus norvegicus cDNA, 3' end /clone=RKIAH16 /clone_end=3 /gb=AA891812 /gi=3018691 /ug=Rn.1885 /len=620
AA8918 12	5569	S54147	X58141	5570	S18207	5571	94	ESTs, Highly similar to S54147 alpha adducin - rat [R.norvegicus]		rc_AA891812 EST195615 Rattus norvegicus cDNA, 3' end /clone=RKIAH16 /clone_end=3 /gb=AA891812 /gi=3018691 /ug=Rn.1885 /len=620
AA8918 12	5572	S54147	X58141	5573	S18207	5574	94	ESTs, Highly similar to S54147 alpha adducin - rat [R.norvegicus]		rc_AA891812 EST195615 Rattus norvegicus cDNA, 3' end /clone=RKIAH16 /clone_end=3 /gb=AA891812 /gi=3018691 /ug=Rn.1885 /len=620

Table 2.

AA891812	5575	S54147	X58141	5576	S18207	5577	94	ESTs, Highly similar to S54147 alpha adducin - rat [R.norvegicus]		rc_AA891812 EST195615 Rattus norvegicus cDNA, 3' end /clone=RKIAH16 /clone_end=3 /gb=AA891812 /gi=3018691 /ug=Rn.1885 /len=620	Collagen alpha 2(I) chain precursor.
AA891828	5578	P02466	5579	5580	P54725	5581	95.37	Homo sapiens, Similar to RAD23		rc_AA891828 EST195631 Rattus norvegicus cDNA, 3' end /clone=RKIAH33 /clone_end=3 /gb=AA891828 /gi=3018707 /ug=Rn.6963 /len=546	Collagen alpha 2(I) chain precursor.
AA891828	5582	P02466	5583	5584	P54725	5585	95.37	Procollagen, type I, alpha 2	AF121217	rc_AA891828 EST195631 Rattus norvegicus cDNA, 3' end /clone=RKIAH33 /clone_end=3 /gb=AA891828 /gi=3018707 /ug=Rn.6963 /len=546	Collagen alpha 2(I) chain precursor.
AA891829	5586	P22288	5587	5588	O76071	5589	92.83	Mus musculus WD40 protein C1ao1 (C1ao1-pending)	NIM_02529 6	rc_AA891829 EST195632 Rattus norvegicus cDNA, 3' end /clone=RKIAH34 /clone_end=3 /gb=AA891829 /gi=3018708 /ug=Rn.3498 /len=667	GTP cyclohydrolase I precursor (EC 3.5.4.16) (GTP-CH-I).
AA891829	5590	P22288	5591	5592	O76071	5593	92.83	Mus musculus WD40 protein C1ao1 (C1ao1-pending)	NIM_02529 6	rc_AA891829 EST195632 Rattus norvegicus cDNA, 3' end /clone=RKIAH34 /clone_end=3 /gb=AA891829 /gi=3018708 /ug=Rn.3498 /len=667	GTP cyclohydrolase I precursor (EC 3.5.4.16) (GTP-CH-I).
AA891829	5594	P22288	5595	5596	O76071	5597	92.83	Mus musculus WD40 protein C1ao1 (C1ao1-pending)	NIM_02529 6	rc_AA891829 EST195632 Rattus norvegicus cDNA, 3' end /clone=RKIAH34 /clone_end=3 /gb=AA891829 /gi=3018708 /ug=Rn.3498 /len=667	GTP cyclohydrolase I precursor (EC 3.5.4.16) (GTP-CH-I).



Table 2.

AA8918 29	5598	P22288	5599	U63810	5600	O76071	5601	92.83	Mus musculus WD40 protein Ciao1 (Ciao1- pending)	NM_02529 6	rc_AA891829 EST195632 Rattus norvegicus cDNA, 3' end /clone=RKIAH34 /clone_end=3 /gb=AA891829 /gi=3018708 /ug=Rn.3498 /len=667	GTP cyclohydrolase I precursor (EC 3.5.4.16) (GTP- CH-I).
AA8918 29	5602	P22288	5603	U63810	5604	O76071	5605	92.83	Mus musculus WD40 protein Ciao1 (Ciao1- pending)	NM_02529 6	rc_AA891829 EST195632 Rattus norvegicus cDNA, 3' end /clone=RKIAH34 /clone_end=3 /gb=AA891829 /gi=3018708 /ug=Rn.3498 /len=667	GTP cyclohydrolase I precursor (EC 3.5.4.16) (GTP- CH-I).
AA8918 29	5606	P22288	5607	U63810	5608	O76071	5609	92.83	Mus musculus WD40 protein Ciao1 (Ciao1- pending)	NM_02529 6	rc_AA891829 EST195632 Rattus norvegicus cDNA, 3' end /clone=RKIAH34 /clone_end=3 /gb=AA891829 /gi=3018708 /ug=Rn.3498 /len=667	GTP cyclohydrolase I precursor (EC 3.5.4.16) (GTP- CH-I).
AA8918 42	5610	No Rat Protein Found.		BC005192	5611	AAF642 74	5612	89.52	BM-O18		rc_AA891842 EST195645 Rattus norvegicus cDNA, 3' end /clone=RKIAH53 /clone_end=3 /gb=AA891842 /gi=3018721 /ug=Rn.14714 /len=591	
AA8918 42	5613	No Rat Protein Found.		BC005192	5614	AAF642 74	5615	89.52	BM-O18		rc_AA891842 EST195645 Rattus norvegicus cDNA, 3' end /clone=RKIAH53 /clone_end=3 /gb=AA891842 /gi=3018721 /ug=Rn.14714 /len=591	
AA8918 48	5616	P04762	5617	X04076	5618	P04040	5619	86.48	Mus musculus, Similar to solute carrier family 35 (CMP-sialic acid)		rc_AA891848 EST195651 Rattus norvegicus cDNA, 3' end /clone=RKIAH61 /clone_end=3 /gb=AA891848 /gi=3018727 /ug=Rn.8127 /len=617	Catalase (EC 1.11.1.6).
AA8918 57	5620	Q8R1B 1	5621	A1005112	5622	NP_036 324	5623	96.34	Rattus norvegicus small zinc finger-like protein (TIM9b)	AF150106	rc_AA891857 EST195660 Rattus norvegicus cDNA, 3' end /clone=RKIAH77 /clone_end=3 /gb=AA891857 /gi=3018738 /ug=Rn.13451 /len=501	Mitochondrial Import Inner membrane . translocase subunit TIM9 B(Fracture callus protein 1) (FxC1).

Table 2.

AA8918 59	5624	No Rat Protein Found.	AA781413	5625	No Human Protein Found.	84.62	EST (not recognized)	AF219141	rc_AA891859 EST195662 Rattus norvegicus cDNA, 3' end /clone=RKIAH79 /clone_end=3 /gb=AA891859 /gi=3018738 /ug=Rn.3920 /len=570		
AA8918 64	5626	AAG37 102	5627	5628	XP_043 746	5629	82	nuclear ATP/GTP- binding protein (Nna1)	rc_AA891864 EST195667 Rattus norvegicus cDNA, 3' end /clone=RKIAH84 /clone_end=3 /gb=AA891864 /gi=3018743 /ug=Rn.19539 /len=608		
AA8918 72	5630	Q61941	5631	5632	Q13423	5633	88.73	ESTs, Highly similar to NNTM MOUSE NAD(P) TRANSHYDR OGENASE, MITOCHOND RIAL PRECURSOR [M.musculus]	rc_AA891872 EST195675 Rattus norvegicus cDNA, 3' end /clone=RKIAH93 /clone_end=3 /gb=AA891872 /gi=3018751 /ug=Rn.3128 /len=614		
AA8918 77	5634	No Rat Protein Found.	X77548	5635	Q13772	5636	89.19	Mus musculus 18 days embryo cDNA, RIKEN	rc_AA891877 EST195680 Rattus norvegicus cDNA, 3' end /clone=RKIA104 /clone_end=3 /gb=AA891877 /gi=3018758 /ug=Rn.7633 /len=548		
AA8918 80	5637	Q8JHY 2	5638	5639	Q9BWM 7	5640	87.64	Tricarboxylate carrier-like protein	rc_AA891880 EST195683 Rattus norvegicus cDNA, 3' end /clone=RKIA108 /clone_end=3 /gb=AA891880 /gi=3018759 /ug=Rn.1082 /len=452	Mitochondrial	Sideroflexin 3.
AA8918 80	5641	Q8JHY 2	5642	5643	Q9BWM 7	5644	87.64	Tricarboxylate carrier-like protein	rc_AA891880 EST195683 Rattus norvegicus cDNA, 3' end /clone=RKIA108 /clone_end=3 /gb=AA891880 /gi=3018759 /ug=Rn.1082 /len=452	Mitochondrial	Sideroflexin 3.
AA8918 91	5645	No Rat Protein Found.	XM_02908 1		XP_029 081			Topoisomeras e-related function protein 4-1	rc_AA891891 EST195694 Rattus norvegicus cDNA, 3' end /clone=RKIA120 /clone_end=3 /gb=AA891891 /gi=3018770 /ug=Rn.22710 /len=497		
AA8919 11	5646	Q63532	5647	5648	g685073		85.85	Small proline- rich protein gene	rc_AA891911 EST195714 Rattus norvegicus cDNA, 3' end /clone=RKIA148 /clone_end=3 /gb=AA891911 /gi=3018790 /ug=Rn.14720 /len=383		

Table 2.

AA8919 14	5649	No Rat Protein Found.		D16307	5650	Q03154	5651	87.27	aminoacylase 1		rc_AA891914 EST195717 Rattus norvegicus cDNA, 3' end /clone=RKIA152 /clone_end=3 /gb=AA891914 /gi=3018793 /ug=Rn.3679 /len=576
AA8919 43	5652	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA891943 EST195748 Rattus norvegicus cDNA, 3' end /clone=RKIA186 /clone_end=3 /gb=AA891943 /gi=3018822 /ug=Rn.3564 /len=550
AA8919 44	5653	AAH05 419	5654	No human homolog found.		No Human Protein Found.			Mus musculus, Similar to Interferon- $\gamma$ Induced GTPase	BC005419	rc_AA891944 EST195747 Rattus norvegicus cDNA, 3' end /clone=RKIA187 /clone_end=3 /gb=AA891944 /gi=3018823 /ug=Rn.8128 /len=605
AA8919 50	5655	No Rat Protein Found.		B1870835	5656	No Human Protein Found.		87.4	Mus musculus adult male stomach cDNA, RIKEN		rc_AA891950 EST195753 Rattus norvegicus cDNA, 3' end /clone=RKIA193 /clone_end=3 /gb=AA891950 /gi=3018829 /ug=Rn.2072 /len=542
AA8919 69	5657	AAH05 436	5658	BE86831	5659	NP_006 324	5660	89.35	Mus musculus, nuclear DNA- binding protein, clone MGC:5983	BC005438	rc_AA891969 EST195772 Rattus norvegicus cDNA, 3' end /clone=RKIAK18 /clone_end=3 /gb=AA891969 /gi=3018848 /ug=Rn.14725 /len=343
AA8919 78	5661	No Rat Protein Found.		AK000494	5662	No Human Protein Found.	5663	90.09	EST(not recognized)		rc_AA891978 EST195781 Rattus norvegicus cDNA, 3' end /clone=RKIAK27 /clone_end=3 /gb=AA891978 /gi=3018857 /ug=Rn.3529 /len=305
AA8920 12	5664	P00507	5665	M22832	5666	P00505	5667	94	Glutamate oxaloacetate transaminase 2, mitochondrial (aspartate amino transfer ase 2)		rc_AA892012 EST195815 Rattus norvegicus cDNA, 3' end /clone=RKIAK68 /clone_end=3 /gb=AA892012 /gi=3018891 /ug=Rn.3628 /len=363
										Mitochondrial matrix.	"Aspartate amino transferase, mitochondrial precursor (EC 2.6.1.1)(Transa- minase A) (Glutamate oxaloacetate transaminase- 2)."

Table 2.

AA892012	5668	P00507	5669	M22632	5670	P00505	5671	94	Glutamate oxaloacetate transaminase 2, mitochondrial (aspartate aminotransferase 2)	rc_AA892012 EST195815 Rattus norvegicus cDNA, 3' end /clone=RKJAM68 /clone_end=3 /gb=AA892012 /gi=3018891 /ug=Rn.3628 /len=363	Mitochondrial matrix.	"Aspartate aminotransferase, mitochondrial precursor (EC 2.6.1.1) (Transaminase A) (Glutamate oxaloacetate transaminase-2)."
AA892049	5672	No Rat Protein Found.		No human homolog found.	No Human Protein Found.			EST (not recognized)		rc_AA892049 EST195852 Rattus norvegicus cDNA, 3' end /clone=RKJAM20 /clone_end=3 /gb=AA892049 /gi=3018928 /ug=Rn.15856 /len=531		
AA892094	5673	No Rat Protein Found.		No human homolog found.	No Human Protein Found.			EST (not recognized)		rc_AA892094 EST195897 Rattus norvegicus cDNA, 3' end /clone=RKJAM28 /clone_end=3 /gb=AA892094 /gi=3018973 /ug=Rn.18972 /len=404		
AA892094	5674	No Rat Protein Found.		No human homolog found.	No Human Protein Found.			EST (not recognized)		rc_AA892094 EST195897 Rattus norvegicus cDNA, 3' end /clone=RKJAM28 /clone_end=3 /gb=AA892094 /gi=3018973 /ug=Rn.18972 /len=404		
AA892120	5675	No Rat Protein Found.		No human homolog found.	No Human Protein Found.			EST (not recognized)		rc_AA892120 EST195923 Rattus norvegicus cDNA, 3' end /clone=RKJAM60 /clone_end=3 /gb=AA892120 /gi=3018998 /ug=Rn.9122 /len=476		
AA892127	5676	No Rat Protein Found.		No human homolog found.	No Human Protein Found.			Human DNA sequence from clone RP3-41217 on chromosome		rc_AA892127 EST195930 Rattus norvegicus cDNA, 3' end /clone=RKJAM68 /clone_end=3 /gb=AA892127 /gi=3019006 /ug=Rn.3372 /len=628		
AA892137	5677	No Rat Protein Found.		AL109701	5678	No Human Protein Found.	5679	86.52	Mus musculus adult male kidney cDNA, RIKEN	rc_AA892137 EST195940 Rattus norvegicus cDNA, 3' end /clone=RKJAM79 /clone_end=3 /gb=AA892137 /gi=3019016 /ug=Rn.22737 /len=442		

Table 2.

AA8921 49	5680	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognised)	rc_AA892149 EST195952 Rattus norvegicus cDNA, 3' end /clone=RKIAM93 /clone_end=3 /gb=AA892149 /gi=3019028 /ug=Rn.22240 /len=488
AA8921 54	5681	NP_037 292	5682	5683	Q14582	50	Mad4 homolog (human)
AA8921 54	5685	NP_037 292	5686	5687	Q14582	50	Mad4 homolog (human)
AA8921 79	5689	No Rat Protein Found.	AL050289	5690	O43734	91.91	Similar to chromosome 6 open reading frame 5
AA8922 48	5692	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Rattus norvegicus mitochondrial genome	
AA8922 48	5693	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Rattus norvegicus mitochondrial genome	
AA8922 59	5694	NP_036 723	5695	5696	Q02556	85.31	ESTs, Highly similar to ICSB MOUSE INTERFERON CONSENSUS SEQUENCE BINDING PROTEIN [M.musculus]
AA8922 60	5698	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	

NM\_01259  
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Table 2.

AA8922 60	5699	No Rat Protein Found.	No human homolog found.	5701	No Human Protein Found.	5702	89.73	EST (not recognized)	rc_AA892260 EST196063 Rattus norvegicus cDNA, 3' end /clone=RKJAO30 /clone_end=3 /gb=AA892260 /gi=3019139 /ug=Rn.9526 /len=554
AA8922 68	5700	No Rat Protein Found.	S59184	5701	No Human Protein Found.	5702	89.73	EST (not recognised)	rc_AA892268 EST196071 Rattus norvegicus cDNA, 3' end /clone=RKJAO42 /clone_end=3 /gb=AA892268 /gi=3019147 /ug=Rn.14745 /len=433
AA8922 70	5703	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			Mus musculus 10 day old male pancreas cDNA, RIKEN	rc_AA892270 EST196073 Rattus norvegicus cDNA, 3' end /clone=RKJAO44 /clone_end=3 /gb=AA892270 /gi=3019149 /ug=Rn.3290 /len=584
AA8922 70	5704	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			Mus musculus 10 day old male pancreas cDNA, RIKEN	rc_AA892270 EST196073 Rattus norvegicus cDNA, 3' end /clone=RKJAO44 /clone_end=3 /gb=AA892270 /gi=3019149 /ug=Rn.3290 /len=584
AA8922 71	5705	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (mouse chromosome)	rc_AA892271 EST196074 Rattus norvegicus cDNA, 3' end /clone=RKJAO45 /clone_end=3 /gb=AA892271 /gi=3019150 /ug=Rn.3767 /len=665
AA8922 73	5706	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognised)	rc_AA892273 EST196076 Rattus norvegicus cDNA, 3' end /clone=RKJAO47 /clone_end=3 /gb=AA892273 /gi=3019152 /ug=Rn.18941 /len=529
AA8922 84	5707	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognised)	rc_AA892284 EST196087 Rattus norvegicus cDNA, 3' end /clone=RKJAO58 /clone_end=3 /gb=AA892284 /gi=3019163 /ug=Rn.22719 /len=572
AA8922 97	5708	AAK111 83	5709	5710	Q92769	5711	92.12	Histone deacetylase 2	rc_AA892297 EST196100 Rattus norvegicus cDNA, 3' end /clone=RKJAO73 /clone_end=3 /gb=AA892297 /gi=3019176 /ug=Rn.1797 /len=640

Table 2.

AA8922 98	5712	CSRTA	5713	AF251049	5714	S64705	5715	95.29	ESTs, Weakly similar to PEPTIDYL- PROLYL CIS- TRANS ISOMERASE A [R.norvegicus]		rc_AA892298 EST196101 Rattus norvegicus cDNA, 3' end /clone=RKJAO74 /clone_end=3 /gb=AA892298 /gi=3019177 /ug=Rn.14747 /len=601
AA8922 99	5716	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA892299 EST196102 Rattus norvegicus cDNA, 3' end /clone=RKJAO75 /clone_end=3 /gb=AA892299 /gi=3019178 /ug=Rn.1708 /len=685
AA8923 00	5717	No Rat Protein Found.		U19721	5718	P50542	5719	92.45	peroxisome receptor 1 (PXR1)		rc_AA892300 EST196103 Rattus norvegicus cDNA, 3' end /clone=RKJAO76 /clone_end=3 /gb=AA892300 /gi=3019178 /ug=Rn.14316 /len=552
AA8923 18	5720	BAA947 43	5721	AB035384	5722	XP_038 801	5723	92.68	Mus musculus mRNA for SRp25 nuclear protein, complete cds	AB035383	rc_AA892318 EST196121 Rattus norvegicus cDNA, 3' end /clone=RKJAO96 /clone_end=3 /gb=AA892318 /gi=3019197 /ug=Rn.3772 /len=541
AA8923 18	5724	BAA947 43	5725	AB035384	5726	NP_057 722	5727	92.68	SRp25 nuclear protein	AB035383	rc_AA892318 EST196121 Rattus norvegicus cDNA, 3' end /clone=RKJAO96 /clone_end=3 /gb=AA892318 /gi=3019197 /ug=Rn.3772 /len=541
AA8923 18	5728	BAA947 43	5729	AB035384	5730	XP_038 801	5731	92.68	Mus musculus mRNA for SRp25 nuclear protein, complete cds	AB035383	rc_AA892318 EST196121 Rattus norvegicus cDNA, 3' end /clone=RKJAO96 /clone_end=3 /gb=AA892318 /gi=3019197 /ug=Rn.3772 /len=541

Table 2.

AA8923 18	5732	BAA847 43	5733	AB035384	5734	NP_057 722	5735	92.68	SRp25 nuclear protein	AB035383	rc_AA892318 EST198121 Rattus norvegicus cDNA, 3' end /clone=RKIAO96 /clone_end=3 /gb=AA892318 /gi=3019197 /ug=Rn.3772 /len=541
AA8923 19	5736	No Rat Protein Found.		AK000386	5737	XP_041 315		86.5	Homo sapiens KIAA0781 protein		rc_AA892319 EST198122 Rattus norvegicus cDNA, 3' end /clone=RKIAO91 /clone_end=3 /gb=AA892319 /gi=3019198 /ug=Rn.19709 /len=593
AA8923 25	5738	BAB253 75	5739	XM_05219 4		XP_052 194		67	choline/ethano laminephosph otransferase (CEPT1),	AK007984	rc_AA892325 EST198128 Rattus norvegicus cDNA, 3' end /clone=RKIAO9 /clone_end=3 /gb=AA892325 /gi=3019204 /ug=Rn.2636 /len=618
AA8923 53	5740	BAB243 00	5741	XM_01671 6		XP_016 716			ESTs, Weakly similar to T33520 hypothetical protein T10B11.6 - Caenorhabditi s elegans [C.elegans]		rc_AA892353 EST198156 Rattus norvegicus cDNA, 3' end /clone=RKIAO42 /clone_end=3 /gb=AA892353 /gi=3019232 /ug=Rn.8133 /len=508
AA8923 53	5742	BAB243 00	5743	XM_01671 6		XP_016 716			ESTs, Weakly similar to T33520 hypothetical protein T10B11.6 - C.elegans (Listed is rat EST; mouse hypothetical protein)		rc_AA892353 EST198156 Rattus norvegicus cDNA, 3' end /clone=RKIAO42 /clone_end=3 /gb=AA892353 /gi=3019232 /ug=Rn.8133 /len=508
AA8923 64	5744	NP_068 360	5745	AB028308	5746	NP_057 396	5747	94.7	WW domain binding protein 11 (Wbp11),	NM_02171 4	rc_AA892364 EST198187 Rattus norvegicus cDNA, 3' end /clone=RKIAO55 /clone_end=3 /gb=AA892364 /gi=3019243 /ug=Rn.7741 /len=622



Table 2.

AA8923 73	5748	Q8J02	5749	U83463	5750	I000560	5751	87.13	syntenin-1	AJ292243	rc_AA892373 EST196176 Rattus norvegicus cDNA, 3' end /clone=RKIAP65 /clone_end=3 /gb=AA892373 /gi=3019252 /ug=Rn.4309 /len=727	Mainly membrane- associated.	Syntenin 1 (Syndecan binding protein 1).
AA8923 76	5752	NP_075 361	5753	AF061739	5754	XP_044 547	5755	93.22	protein associated with PRK1 (AWP1)	NM_02298 5	rc_AA892376 EST196178 Rattus norvegicus cDNA, 3' end /clone=RKIAP68 /clone_end=3 /gb=AA892376 /gi=3019255 /ug=Rn.2902 /len=624		
AA8923 78	5756	NP_079 838	5757	NM_0160 68	5758	AAD341 30	5759	92.68	ESTs, Highly similar to AF151893 1 CGI-135 protein [H.sapiens]		rc_AA892378 EST196181 Rattus norvegicus cDNA, 3' end /clone=RKIAP70 /clone_end=3 /gb=AA892378 /gi=3019257 /ug=Rn.1298 /len=589		
AA8923 78	5760	No Rat Protein Found.		NM_0160 68	5761	XP_051 242		92.68	ESTs, Highly similar to AF151893 1 CGI-135 protein [H.sapiens]		rc_AA892378 EST196181 Rattus norvegicus cDNA, 3' end /clone=RKIAP70 /clone_end=3 /gb=AA892378 /gi=3019257 /ug=Rn.1298 /len=589		
AA8923 78	5762	NP_079 838	5763	NM_0160 68	5764	AAD341 30	5765	92.68	ESTs, Highly similar to AF151893 1 CGI-135 protein [H.sapiens]		rc_AA892378 EST196181 Rattus norvegicus cDNA, 3' end /clone=RKIAP70 /clone_end=3 /gb=AA892378 /gi=3019257 /ug=Rn.1298 /len=589		
AA8923 78	5766	No Rat Protein Found.		NM_0160 68	5767	XP_051 242		92.68	ESTs, Highly similar to AF151893 1 CGI-135 protein [H.sapiens]		rc_AA892378 EST196181 Rattus norvegicus cDNA, 3' end /clone=RKIAP70 /clone_end=3 /gb=AA892378 /gi=3019257 /ug=Rn.1298 /len=589		

Table 2.

AA8923 88	5768	P27274	5769	AF052941	5770	NP_055 141	5771	92.06	Mus musculus mRNA for Death- associated protein kinase 2	AB018002	rc_AA892388 EST196191 Rattus norvegicus cDNA, 3' end /clone=RK1AP80 /clone_end=3 /gb=AA892388 /gi=3019267 /ug=Rn.1231 /len=649	Attached to the membrane by a GPI- anchor.	CD59 glycoprotein precursor (Membrane attack complex inhibitor factor) (MACIF) (MAC- inhibitory protein) (MAC- IP) (Protectin).
AA8923 94	5772	No Rat Protein Found.		AK057016	5773	No Human Protein Found.		100	EST(not recognised)		rc_AA892394 EST196197 Rattus norvegicus cDNA, 3' end /clone=RK1AP90 /clone_end=3 /gb=AA892394 /gi=3019273 /ug=Rn.4183 /len=609		
AA8923 94	5774	No Rat Protein Found.		AK057016	5775	No Human Protein Found.		100	EST(not recognised)		rc_AA892394 EST196197 Rattus norvegicus cDNA, 3' end /clone=RK1AP90 /clone_end=3 /gb=AA892394 /gi=3019273 /ug=Rn.4183 /len=609		
AA8924 00	5776	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA892400 EST196203 Rattus norvegicus cDNA, 3' end /clone=RK1AQ01 /clone_end=3 /gb=AA892400 /gi=3019278 /ug=Rn.14755 /len=393		
AA8924 00	5777	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA892400 EST196203 Rattus norvegicus cDNA, 3' end /clone=RK1AQ01 /clone_end=3 /gb=AA892400 /gi=3019278 /ug=Rn.14755 /len=393		
AA8924 14	5778	AAF143 45	5779	AF047033	5780	AAD383 22	5781		sodium bicarbonate cotransporter 3 (SLC4A7)		rc_AA892414 EST196217 Rattus norvegicus cDNA, 3' end /clone=RK1AQ18 /clone_end=3 /gb=AA892414 /gi=3019283 /ug=Rn.25345 /len=448		

Table 2.

AA892417	5782	P97553	5783	M57730	5784	P20827	5785	86.39	Mus musculus adult male tongue cDNA, RIKEN	AB019577	rc_AA892417 EST198220 Rattus norvegicus cDNA, 3' end /clone=RKIAQ20 /clone_end=3 /gb=AA892417 /gi=3019298 /ug=Rn.8427 /len=482	Attached to the membrane by a GPI-anchor.	Ephrin-A1 precursor (EPH-related receptor tyrosine kinase ligand 1)(LERK-1) (immediate early response protein B61).
AA892425	5786	No Rat Protein Found.		AA411025	5787	No Human Protein Found.		94.06	Mus musculus 11 days embryo cDNA, RIKEN		rc_AA892425 EST198228 Rattus norvegicus cDNA, 3' end /clone=RKIAQ30 /clone_end=3 /gb=AA892425 /gi=3019304 /ug=Rn.8544 /len=498		
AA892465	5788	No Rat Protein Found.		D29677	5789	P42694	5790	86.94	Homo sapiens helicase KIAA0054		rc_AA892465 EST198268 Rattus norvegicus cDNA, 3' end /clone=RKIAQ77 /clone_end=3 /gb=AA892465 /gi=3019344 /ug=Rn.18942 /len=446		
AA892498	5791	No Rat Protein Found.		AK026415	5792	P52757	5793	93.46	Weak homology with Homo sapiens chimerin (chimaerin) 2 (CHN2)		rc_AA892498 EST198289 Rattus norvegicus cDNA, 3' end /clone=RKIAS17 /clone_end=3 /gb=AA892498 /gi=3019375 /ug=Rn.3571 /len=596		
AA892500	5794	BAA77341	5795	AB014523	5796	XP_008514	5797	86.88	UNC-51-like kinase (ULK) 2	AB019577	rc_AA892500 EST198303 Rattus norvegicus cDNA, 3' end /clone=RKIAS21 /clone_end=3 /gb=AA892500 /gi=3019378 /ug=Rn.8300 /len=590		
AA892500	5798	BAA77341	5799	AB014523	5800	XP_008514	5801	86.89	UNC-51-like kinase (ULK) 2	AB019577	rc_AA892500 EST198303 Rattus norvegicus cDNA, 3' end /clone=RKIAS21 /clone_end=3 /gb=AA892500 /gi=3019379 /ug=Rn.8300 /len=590		
AA892505	5802	BAB23217	5803	AF230924	5804	XP_042629	5805	91.22	Homo sapiens divalent cation tolerant protein CUTA		rc_AA892505 EST198308 Rattus norvegicus cDNA, 3' end /clone=RKIAS28 /clone_end=3 /gb=AA892505 /gi=3019384 /ug=Rn.2595 /len=562		

Table 2.

AA8925 07	5806	BAB226 91	5807	NM_0015 45	5808	Q14197	5809	86.86	ESTs, Moderately similar to DS1_HUMAN DS-1 PROTEI [H.sapiens]		rc_AA892507 EST196310 Rattus norvegicus cDNA, 3 end /clone=RKIAS28 /clone_end=3 /gb=AA892507 /gi=3019386 /ug=Rn.22728 /len=541
AA8925 11	5810	AAF404 39	5811	U61538	5812	Q99653	5813		Mus musculus testcalcin	AF234783	rc_AA892511 EST196314 Rattus norvegicus cDNA, 3 end /clone=RKIAS32 /clone_end=3 /gb=AA892511 /gi=3019390 /ug=Rn.14758 /len=593
AA8925 11	5814	AAF404 39	5815	U61538	5816	Q99653	5817		Mus musculus testcalcin	AF234783	rc_AA892511 EST196314 Rattus norvegicus cDNA, 3 end /clone=RKIAS32 /clone_end=3 /gb=AA892511 /gi=3019390 /ug=Rn.14758 /len=593
AA8925 22	5818	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA892522 EST196325 Rattus norvegicus cDNA, 3 end /clone=RKIAS45 /clone_end=3 /gb=AA892522 /gi=3019401 /ug=Rn.19440 /len=560
AA8925 26	5819	No Rat Protein Found.		AB002405	5820	No Human Protein Found.	5821	87.5	Mus musculus, clone MGC:19168		rc_AA892526 EST196329 Rattus norvegicus cDNA, 3 end /clone=RKIAS49 /clone_end=3 /gb=AA892526 /gi=3019405 /ug=Rn.14761 /len=502
AA8925 31	5822	B39066		AL136746	5823	AAG155 89	5824	94.78	ESTs, Weakly similar to B39068 proline-rich protein 15 - rat [R.norvegicus]		rc_AA892531 EST196334 Rattus norvegicus cDNA, 3 end /clone=RKIAS55 /clone_end=3 /gb=AA892531 /gi=3019410 /ug=Rn.23798 /len=559
AA8925 38	5825	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (some homology with mouse chromosomal)		rc_AA892538 EST196341 Rattus norvegicus cDNA, 3 end /clone=RKIAS62 /clone_end=3 /gb=AA892538 /gi=3019417 /ug=Rn.3573 /len=609
AA8925 38	5826	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (some homology with mouse chromosomal)		rc_AA892538 EST196341 Rattus norvegicus cDNA, 3 end /clone=RKIAS62 /clone_end=3 /gb=AA892538 /gi=3019417 /ug=Rn.3573 /len=609

Table 2.

AA8925 47	5827	No Rat Protein Found.	A1927365	5828	AA291 25	5829	93.81	Homo sapiens HSPC161	rc_AA892547 EST196350 Rattus norvegicus cDNA, 3' end /clone=RKIAS72 /clone_end=3 /gb=AA892547 /gi=3019428 /ug=Rn.3269 /len=584
AA8925 48	5830	P02551	5831	5832	A23035		100	Alpha-tubulin	rc_AA892548 EST196351 Rattus norvegicus cDNA, 3' end /clone=RKIAS73 /clone_end=3 /gb=AA892548 /gi=3019427 /ug=Rn.14764 /len=618
AA8925 49	5833	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST(not recognised)	rc_AA892549 EST196352 Rattus norvegicus cDNA, 3' end /clone=RKIAS74 /clone_end=3 /gb=AA892549 /gi=3019428 /ug=Rn.3576 /len=644
AA8925 50	5834	No Rat Protein Found.	AK024048	5835	No Human Protein Found.	5836	92.96	EST(not recognised)	rc_AA892550 EST196353 Rattus norvegicus cDNA, 3' end /clone=RKIAS75 /clone_end=3 /gb=AA892550 /gi=3019429 /ug=Rn.4284 /len=566
AA8925 50	5837	No Rat Protein Found.	AK024048	5838	No Human Protein Found.	5839	92.96	EST(not recognised)	rc_AA892550 EST196353 Rattus norvegicus cDNA, 3' end /clone=RKIAS75 /clone_end=3 /gb=AA892550 /gi=3019429 /ug=Rn.4284 /len=566
AA8925 54	5840	No Rat Protein Found.	AF070815	5841	Q9UN86	5842	95.1	Homo sapiens Ras-GTPase activating protein SH3 domain- binding protein 2 (KIAA0660)	rc_AA892554 EST196357 Rattus norvegicus cDNA, 3' end /clone=RKIAS79 /clone_end=3 /gb=AA892554 /gi=3019433 /ug=Rn.22084 /len=549
AA8925 54	5843	No Rat Protein Found.	AF070815	5844	Q9UN86	5845	95.1	Homo sapiens Ras-GTPase activating protein SH3 domain- binding protein 2 (KIAA0660)	rc_AA892554 EST196357 Rattus norvegicus cDNA, 3' end /clone=RKIAS79 /clone_end=3 /gb=AA892554 /gi=3019433 /ug=Rn.22084 /len=549

Tubulin alpha-1  
chain.

Table 2.

AA8925 54	5846	No Rat Protein Found.		AF070615	5847	Q9UN86	5848	95.1	Homo sapiens Ras-GTPase activating protein SH3 domain- binding protein 2 (KIAA0860)	rc_AA892554 EST196357 Rattus norvegicus cDNA, 3' end /clone=RKIAS79 /clone_end=3 /gb=AA892554 /gi=3019433 /ug=Rn.22084 /len=549
AA8925 54	5849	No Rat Protein Found.		AF070615	5850	Q9UN86	5851	95.1	Homo sapiens Ras-GTPase activating protein SH3 domain- binding protein 2 (KIAA0860)	rc_AA892554 EST196357 Rattus norvegicus cDNA, 3' end /clone=RKIAS79 /clone_end=3 /gb=AA892554 /gi=3019433 /ug=Rn.22084 /len=549
AA8925 61	5852	No Rat Protein Found.		NM_0140 39	5853	No Human Protein Found.		87.2	EST (not recognized)	rc_AA892561 EST196364 Rattus norvegicus cDNA, 3' end /clone=RKIAS89 /clone_end=3 /gb=AA892561 /gi=3019440 /ug=Rn.24636 /len=459
AA8926 35	5854	TVRTR H	5855	BC013135	5856	P17081	5857	94.26	Ras-like protein	rc_AA892635 EST196438 Rattus norvegicus cDNA, 3' end /clone=RKIAV15 /clone_end=3 /gb=AA892635 /gi=3019514 /ug=Rn.12720 /len=478
AA8926 35	5858	TVRTR H	5859	BC013135	5860	P17081	5861	94.26	Ras-like protein	rc_AA892635 EST196438 Rattus norvegicus cDNA, 3' end /clone=RKIAV15 /clone_end=3 /gb=AA892635 /gi=3019514 /ug=Rn.12720 /len=478
AA8926 37	5862	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA892637 EST196440 Rattus norvegicus cDNA, 3' end /clone=RKIAV17 /clone_end=3 /gb=AA892637 /gi=3019516 /ug=Rn.11527 /len=480
AA8926 42	5863	No Rat Protein Found.		AL162039	5864	No Human Protein Found.		83.23	Homo sapiens mRNA; cDNA DKFZp434M2 29	rc_AA892642 EST196445 Rattus norvegicus cDNA, 3' end /clone=RKIAV23 /clone_end=3 /gb=AA892642 /gi=3019521 /ug=Rn.14778 /len=506

Table 2.

AA8926 75	5865	No Rat Protein Found.	AF267858	5866	AAG447 27	5867	GL014 mRNA		rc_AA892675 EST198478 Rattus norvegicus cDNA, 3' end /clone=RKIAV64 /clone_end=3 /gb=AA892675 /gl=3019554 /ug=Rn.16542 /len=413
AA8926 80	5868	CSRTA	AF251049	5870	S64705	5871	95.29	ESTs, Weakly similar to PEPTIDYL- PROLYL CIS- TRANS ISOMERASE A [R.norvegicus]	rc_AA892680 EST198483 Rattus norvegicus cDNA, 3' end /clone=RKIAV69 /clone_end=3 /gb=AA892680 /gl=3019559 /ug=Rn.14747 /len=451
AA8927 54	5872	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA892754 EST198557 Rattus norvegicus cDNA, 3' end /clone=RKIAW82 /clone_end=3 /gb=AA892754 /gl=3019833 /ug=Rn.14788 /len=382
AA8927 75	5873	NP_036 903	NM_0002 39	5875	P00695	5876	66	Lysozyme	rc_AA892775 EST198578 Rattus norvegicus cDNA, 3' end /clone=RKIAW18 /clone_end=3 /gb=AA892775 /gl=3019854 /ug=Rn.2283 /len=711
AA8927 79	5877	No Rat Protein Found.	AL136667	5878	No Human Protein Found.	5879	89.32	EST (not recognized)	rc_AA892779 EST198582 Rattus norvegicus cDNA, 3' end /clone=RKIAW22 /clone_end=3 /gb=AA892779 /gl=3019858 /ug=Rn.7319 /len=662
AA8927 79	5880	No Rat Protein Found.	AL136667	5881	No Human Protein Found.	5882	89.32	EST (not recognized)	rc_AA892779 EST198582 Rattus norvegicus cDNA, 3' end /clone=RKIAW22 /clone_end=3 /gb=AA892779 /gl=3019858 /ug=Rn.7319 /len=662
AA8927 80	5883	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA892780 EST198583 Rattus norvegicus cDNA, 3' end /clone=RKIAW23 /clone_end=3 /gb=AA892780 /gl=3019859 /ug=Rn.14783 /len=558
AA8928 01	5884	P05197	M19997	5886	P13639	5887	99	Eukaryotic translation elongation factor 2	rc_AA892801 EST198604 Rattus norvegicus cDNA, 3' end /clone=RKIAW44 /clone_end=3 /gb=AA892801 /gl=3019880 /ug=Rn.3610 /len=528
								Cytoplasmic.	
								Elongation factor 2 (EF-2).	

Table 2.

AA8928 01	5888	P05197	5889	M19997	5890	P13639	5891	99	Eukaryotic translation elongation factor 2	rc_AA892801 EST196604 Rattus norvegicus cDNA, 3' end /clone=RKJAX44 /clone_end=3 /gb=AA892801 /gi=3019680 /ug=Rn.3610 /len=528	Cytoplasmic.	Elongation factor 2 (EF-2).
AA8928 01	5892	P05197	5893	M19997	5894	P13639	5895	99	Eukaryotic translation elongation factor 2	rc_AA892801 EST196604 Rattus norvegicus cDNA, 3' end /clone=RKJAX44 /clone_end=3 /gb=AA892801 /gi=3019680 /ug=Rn.3610 /len=528	Cytoplasmic.	Elongation factor 2 (EF-2).
AA8928 01	5896	P05197	5897	M19997	5898	P13639	5899	99	Eukaryotic translation elongation factor 2	rc_AA892801 EST196604 Rattus norvegicus cDNA, 3' end /clone=RKJAX44 /clone_end=3 /gb=AA892801 /gi=3019680 /ug=Rn.3610 /len=528	Cytoplasmic.	Elongation factor 2 (EF-2).
AA8928 05	5900	No Rat Protein Found.		BG420645	5901	No Human Protein Found.		81.94	Mus musculus adult male testis cDNA, RIKEN	rc_AA892805 EST196608 Rattus norvegicus cDNA, 3' end /clone=RKJAX50 /clone_end=3 /gb=AA892805 /gi=3019684 /ug=Rn.19944 /len=498		
AA8928 13	5902	No Rat Protein Found.		AF051261	5903	XP_007 221	5904	99.17	Homo sapiens region containing C3H-type zinc finger protein	rc_AA892813 EST196616 Rattus norvegicus cDNA, 3' end /clone=RKJAX58 /clone_end=3 /gb=AA892813 /gi=3019692 /ug=Rn.1940 /len=542		
AA8928 18	5905	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognised)	rc_AA892818 EST196621 Rattus norvegicus cDNA, 3' end /clone=RKJAX63 /clone_end=3 /gb=AA892818 /gi=3019697 /ug=Rn.14795 /len=543		
AA8928 20	5906	S70642		AB007899	5907	BAA237 11	5908	58	ESTs, Weakly similar to S70642 ubiquitin ligase Nedd4 - rat [R.norvegicus]	rc_AA892820 EST196623 Rattus norvegicus cDNA, 3' end /clone=RKJAX65 /clone_end=3 /gb=AA892820 /gi=3019699 /ug=Rn.1761 /len=590		



Table 2.

AA8928 21	5908	BAA803 96	5910	Y16675	5911	O43488	5912	88.43	Rattus norvegicus alar mRNA for androgen- inducible aldehyde reductase	rc_AA892821 EST198624 Rattus norvegicus cDNA, 3' end /clone=RK1AX66 /clone_end=3 /gb=AA892821 /gi=3019700 /ug=Rn.8548 /len=503
AA8928 21	5913	BAA803 96	5914	Y16675	5915	O43488	5916	88.43	Rattus norvegicus alar mRNA for androgen- inducible aldehyde reductase	rc_AA892821 EST198624 Rattus norvegicus cDNA, 3' end /clone=RK1AX66 /clone_end=3 /gb=AA892821 /gi=3019700 /ug=Rn.8548 /len=503
AA8928 28	5917	P49432	5918	M34055	5919	P11177	5920	96.15	ESTs, Highly similar to ODPB RAT PYRUVATE DEHYDROGE NASE E1 COMPONENT BETA SUBUNIT, MITOCHOND RIAL PRECURSOR [R.norvegicus]	rc_AA892828 EST198631 Rattus norvegicus cDNA, 3' end /clone=RK1AX75 /clone_end=3 /gb=AA892828 /gi=3019707 /ug=Rn.2273 /len=626

Table 2.

AA8928 28	5921	P49432	5922	M34055	5923	P11177	5924	96.15	ESTs, Highly similar to ODPB RAT PYRUVATE DEHYDROGE NASE E1 COMPONENT BETA SUBUNIT, MITOCHOND RIAL PRECURSOR [R.norvegicus]	rc_AA892828 EST198631 Rattus norvegicus cDNA, 3' end /clone=RKJAX75 /clone_end=3 /gb=AA892828 /gi=3019707 /ug=Rn.2273 /len=628
AA8928 28	5925	P49432	5926	M34055	5927	P11177	5928	96.15	ESTs, Highly similar to ODPB RAT PYRUVATE DEHYDROGE NASE E1 COMPONENT BETA SUBUNIT, MITOCHOND RIAL PRECURSOR [R.norvegicus]	rc_AA892828 EST198631 Rattus norvegicus cDNA, 3' end /clone=RKJAX75 /clone_end=3 /gb=AA892828 /gi=3019707 /ug=Rn.2273 /len=628

Table 2.

AA892828	5929	P49432	5930	M34055	5931	P11177	5932	96.15	ESTs, Highly similar to ODPB RAT PYRUVATE DEHYDROGE NASE E1 COMPONENT BETA SUBUNIT, MITOCHOND RIAL PRECURSOR [R.norvegicus]	rc_AA892828 EST196631 Rattus norvegicus cDNA, 3' end /clone=RK1AX75 /clone_end=3 /gb=AA892828 /gi=3019707 /ug=Rn.2273 /len=626
AA892828	5933	P49432	5934	M34055	5935	P11177	5936	96.15	ESTs, Highly similar to ODPB RAT PYRUVATE DEHYDROGE NASE E1 COMPONENT BETA SUBUNIT, MITOCHOND RIAL PRECURSOR [R.norvegicus]	rc_AA892828 EST196631 Rattus norvegicus cDNA, 3' end /clone=RK1AX75 /clone_end=3 /gb=AA892828 /gi=3019707 /ug=Rn.2273 /len=626

Table 2.

AA8928 28	5937	P49432	5938	M34055	5939	P11177	5940	98.15	ESTs, Highly similar to ODPB RAT PYRUVATE DEHYDROGE NASE E1 COMPONENT BETA SUBUNIT, MITOCHOND RIAL PRECURSOR [R.norvegicus]	rc_AA892828 EST198631 Rattus norvegicus cDNA, 3' end /clone=RK1AX75 /clone_end=3 /gb=AA892828 /gi=3019707 /ug=Rn.2273 /len=626
AA8928 29	5941	NP_035993	5942	Y10387	5943	O43252	5944	98.44	Mus musculus NIM_011863 3'-phosphadenosine 5'-phosphosulfate synthase 1	rc_AA892829 EST198632 Rattus norvegicus cDNA, 3' end /clone=RK1AX76 /clone_end=3 /gb=AA892829 /gi=3019708 /ug=Rn.3507 /len=634
AA8928 32	5945	No Rat Protein Found.	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	JC1235		93.82	Mus musculus 18 days embryo cDNA, RIKEN ESTs, Moderately similar to BTF3 MOUSE TRANSCRIPT ION FACTOR BTF3 [M.musculus]	rc_AA892832 EST198635 Rattus norvegicus cDNA, 3' end /clone=RK1AX79 /clone_end=3 /gb=AA892832 /gi=3019711 /ug=Rn.4243 /len=605
AA8928 35	5946	No Rat Protein Found.	No Rat Protein Found.	AK027582	5947			98.85	Rattus norvegicus clone RP31-188L2	rc_AA892835 EST198638 Rattus norvegicus cDNA, 3' end /clone=RK1AX82 /clone_end=3 /gb=AA892835 /gi=3019714 /ug=Rn.3813 /len=570
AA8928 42	5948	No Rat Protein Found.		U03851	5949	P47755	5950			rc_AA892842 EST198645 Rattus norvegicus cDNA, 3' end /clone=RK1AX90 /clone_end=3 /gb=AA892842 /gi=3019721 /ug=Rn.3947 /len=544

Table 2.

AA8928 43	5951	No Rat Protein Found.	AK024570	5952	No Human Protein Found.	5953	87.57	Mus musculus, RIKEN cDNA 2010005E08	AJ223968	tc_AA892843 EST196646 Rattus norvegicus cDNA, 3 end /clone=RK1AX91 /clone_end=3 /gb=AA892843 /gl=3019722 /ug=Rn.3728 /len=600
AA8928 47	5954	CAA11 703	5955 NM_0002 62	5956	P17050	5957	82	alpha-N- acetylglactos aminidase		tc_AA892847 EST196650 Rattus norvegicus cDNA, 3 end /clone=RK1AX96 /clone_end=3 /gb=AA892847 /gl=3019726 /ug=Rn.25171 /len=537
AA8928 49	5958	No Rat Protein Found.	BC002713	5959	Q14582	5960	96.15	Mus musculus 10 day old male pancreas cDNA, RIKEN		tc_AA892849 EST196652 Rattus norvegicus cDNA, 3 end /clone=RK1AY06 /clone_end=3 /gb=AA892849 /gl=3019728 /ug=Rn.3615 /len=593
AA8928 51	5961	No Rat Protein Found.	BE139189	5962	AAC500 62	5963	90.18	EST, weakly similar to Human protein tyrosine kinase		tc_AA892851 EST196654 Rattus norvegicus cDNA, 3 end /clone=RK1AY09 /clone_end=3 /gb=AA892851 /gl=3019730 /ug=Rn.3616 /len=586
AA8928 51	5964	No Rat Protein Found.	BE139189	5965	AAC500 62	5966	90.18	EST, weakly similar to Human protein tyrosine kinase		tc_AA892851 EST196654 Rattus norvegicus cDNA, 3 end /clone=RK1AY09 /clone_end=3 /gb=AA892851 /gl=3019730 /ug=Rn.3616 /len=586
AA8928 51	5967	No Rat Protein Found.	BE139189	5968	AAC500 62	5969	90.18	EST, weakly similar to Human protein tyrosine kinase		tc_AA892851 EST196654 Rattus norvegicus cDNA, 3 end /clone=RK1AY09 /clone_end=3 /gb=AA892851 /gl=3019730 /ug=Rn.3616 /len=586
AA8928 51	5970	No Rat Protein Found.	BE139189	5971	AAC500 62	5972	90.18	EST, weakly similar to Human protein tyrosine kinase		tc_AA892851 EST196654 Rattus norvegicus cDNA, 3 end /clone=RK1AY09 /clone_end=3 /gb=AA892851 /gl=3019730 /ug=Rn.3616 /len=586

Table 2.

AA8928 54	5973	NP_061 354	5974	NM_0064 19	5975	O43927	5976	44	small inducible cytokine subfamily B (Cys-X-Cys), member 13 (Scyb13),	NM_01886 6	rc_AA892854 EST196657 Rattus norvegicus cDNA, 3' end /clone=RKIAY12 /clone_end=3 /gb=AA892854 /gi=3019733 /ug=Rn.6917 /len=591	
AA8928 60	5977	No Rat Protein Found.		AA032215	5978	Q07869	5979	94.37	EST(not recognised)	rc_AA892860 EST196683 Rattus norvegicus cDNA, 3' end /clone=RKIAY20 /clone_end=3 /gb=AA892860 /gi=3019739 /ug=Rn.21424 /len=436		
AA8928 60	5980	No Rat Protein Found.		AA032215	5981	Q07869	5982	94.37	EST(not recognised)	rc_AA892860 EST196683 Rattus norvegicus cDNA, 3' end /clone=RKIAY20 /clone_end=3 /gb=AA892860 /gi=3019739 /ug=Rn.21424 /len=436		
AA8928 63	5983	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA892863 EST196666 Rattus norvegicus cDNA, 3' end /clone=RKIAY23 /clone_end=3 /gb=AA892863 /gi=3019742 /ug=Rn.1076 /len=534		
AA8928 64	5984	NP_035 974	5985	XM_04258 5		XP_042 585		84	Monoglyceride lipase	rc_AA892864 EST196687 Rattus norvegicus cDNA, 3' end /clone=RKIAY25 /clone_end=3 /gb=AA892864 /gi=3019743 /ug=Rn.18592 /len=570		
AA8928 88	5986	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA892888 EST196691 Rattus norvegicus cDNA, 3' end /clone=RKIAY54 /clone_end=3 /gb=AA892888 /gi=3019767 /ug=Rn.14801 /len=508		
AA8928 95	5987	P11174	5988	AA434279	5989	R3HU15	5990	93.45	Ribosomal protein S15	rc_AA892895 EST196698 Rattus norvegicus cDNA, 3' end /clone=RKIAY64 /clone_end=3 /gb=AA892895 /gi=3019774 /ug=Rn.3391 /len=508	40S ribosomal protein S15 (R1G protein).	

Table 2.

AA892895	5991	P11174	5992	AA434279	5993	R3HU15	5994	93.45	Ribosomal protein S15		rc_AA892895 EST196698 Rattus norvegicus cDNA, 3' end /clone=RKIAY64 /clone_end=3 /gb=AA892895 /gi=3019774 /ug=Rn.3391 /len=508			40S ribosomal protein S15 (RIG protein).
AA892819	5995	P41777	5996	No human homolog found.	No Human Protein Found.				Nucleolar phosphoprotein of 140kD	M94288	rc_AA892819 EST196722 Rattus norvegicus cDNA, 3' end /clone=RKIAY91 /clone_end=3 /gb=AA892819 /gi=3019798 /ug=Rn.9517 /len=574	SHUTTLES ON CURVILINEAR TRACKS BETWEEN NUCLEOLUS AND CYTOPLASM. THESE TRACKS EXTEND FROM THE DENSE FIBRILLAR COMPONENT OF THE NUCLEOLUS ACROSS THE NUCLEOLAR MEMBRANE TO A LIMITED NUMBER OF NUCLEAR PORE COMPLEXES.	Nucleolar phosphoprotein p130 (Nucleolar protein) (140 kDa) (Nucleolar phosphoprotein) (Nopp140) (Nucleolar and coiled-body phosphoprotein 1).	

Table 2.

AA892919	5997	P41777	5998	XM_005918	XP_005918	42	nucleolar phosphoprotein of 140kD, Nopp140	M94288	rc_AA892919 EST198722 Rattus norvegicus cDNA, 3' end /clone=RK1A91 /clone_end=3 /gb=AA892919 /gi=3019798 /ug=Rn.9517 /len=574	SHUTTLES ON CURVILINEAR TRACKS BETWEEN NUCLEOLUS AND CYTOPLASM. THESE TRACKS EXTEND FROM THE DENSE FIBRILLAR COMPONENT OF THE NUCLEOLUS ACROSS THE NUCLEOLAR SM TO A LIMITED NUMBER OF NUCLEAR PORE COMPL	Nucleolar phosphoprotein p130 (Nucleolar protein) (140 kDa) (Nucleolar phosphoprotein) (Nopp140) (Nucleolar and coiled-body phosphoprotein 1).
AA892967	5999	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		RIKEN full-length cDNA mouse	AK018158	rc_AA892967 EST198770 Rattus norvegicus cDNA, 3' end /clone=RK1A44 /clone_end=3 /gb=AA892967 /gi=3019846 /ug=Rn.1936 /len=379		
AA892999	6000	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST (not recognised)		rc_AA892999 EST198802 Rattus norvegicus cDNA, 3' end /clone=RK1A90 /clone_end=3 /gb=AA892999 /gi=3019878 /ug=Rn.13463 /len=465		
AA893002	6001	No Rat Protein Found.		BG261086	No Human Protein Found.	92.24	EST (not recognised)		rc_AA893002 EST198805 Rattus norvegicus cDNA, 3' end /clone=RK1A94 /clone_end=3 /gb=AA893002 /gi=3019881 /ug=Rn.13464 /len=289		



Table 2.

AA8930 11	6003	No Rat Protein Found.	6006	No human homolog found.	6007	XP_035 579	No Human Protein Found.			EST (not recognized)		rc_AA893011 EST198814 Rattus norvegicus cDNA, 3' end /clone=RKIBB08 /clone_end=3 /gb=AA893011 /gi=3019890 /ug=Rn.22720 /len=365
AA8930 32	6004	No Rat Protein Found.		No human homolog found.			No Human Protein Found.			EST (not recognized)		rc_AA893032 EST198835 Rattus norvegicus cDNA, 3' end /clone=RKIBB31 /clone_end=3 /gb=AA893032 /gi=3019911 /ug=Rn.12640 /len=367
AA8930 82	6005	NP_062 191	6006	AF055376	6007	XP_035 579	No Human Protein Found.	6008	97.47	v-maf muscleapone urotic fibrosarcoma	NM_01931 8	rc_AA893082 EST198885 Rattus norvegicus cDNA, 3' end /clone=RKIBB88 /clone_end=3 /gb=AA893082 /gi=3019961 /ug=Rn.6545 /len=479
AA8930 88	6009	No Rat Protein Found.		No human homolog found.			No Human Protein Found.			EST (not recognized)		rc_AA893088 EST198891 Rattus norvegicus cDNA, 3' end /clone=RKIBB94 /clone_end=3 /gb=AA893088 /gi=3019967 /ug=Rn.3649 /len=478
AA8931 72	6010	No Rat Protein Found.		AK023165	6011		No Human Protein Found.		93.39	EST (not recognized)		rc_AA893172 EST198975 Rattus norvegicus cDNA, 3' end /clone=RKIBD10 /clone_end=3 /gb=AA893172 /gi=3020051 /ug=Rn.22629 /len=634
AA8931 83	6012	No Rat Protein Found.		XM_01786 6		XP_017 866	No Human Protein Found.			ESTs, Weakly similar to S57447 HPBR1-7 protein [H.sapiens]		rc_AA893183 EST198986 Rattus norvegicus cDNA, 3' end /clone=RKIBD25 /clone_end=3 /gb=AA893183 /gi=3020062 /ug=Rn.24460 /len=491
AA8931 83	6013	No Rat Protein Found.		No human homolog found.		S57447	No Human Protein Found.	6014	63	ESTs, Weakly similar to S57447 HPBR1-7 protein [H.sapiens]		rc_AA893183 EST198986 Rattus norvegicus cDNA, 3' end /clone=RKIBD25 /clone_end=3 /gb=AA893183 /gi=3020062 /ug=Rn.24460 /len=491

Table 2.

AA8931 83	6015	No Rat Protein Found.	XM_01786 6	XP_017 866	6017	ESTs, Weakly similar to S57447 HPBRII-7 protein [H.sapiens]	rc_AA893183 EST196986 Rattus norvegicus cDNA, 3' end /clone=RKIBD25 /clone_end=3 /gb=AA893183 /gi=3020062 /ug=Rn.24460 /len=491
AA8931 83	6016	No Rat Protein Found.	No human homolog found.	S57447	6017	ESTs, Weakly similar to S57447 HPBRII-7 protein [H.sapiens]	rc_AA893183 EST196986 Rattus norvegicus cDNA, 3' end /clone=RKIBD25 /clone_end=3 /gb=AA893183 /gi=3020062 /ug=Rn.24460 /len=491
AA8931 84	6018	No Rat Protein Found.	XM_00609 4	XP_006 094		Pyruvate dehydrogenas e	rc_AA893184 EST196987 Rattus norvegicus cDNA, 3' end /clone=RKIBD26 /clone_end=3 /gb=AA893184 /gi=3020063 /ug=Rn.19819 /len=643
AA8931 93	6019	No Rat Protein Found.	AA904277 6020	No Human Protein Found.	98.06	EST(not recognised)	rc_AA893183 EST196988 Rattus norvegicus cDNA, 3' end /clone=RKIBD37 /clone_end=3 /gb=AA893183 /gi=3020072 /ug=Rn.1779 /len=646
AA8932 17	6021	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Homo sapiens, clone IMAGE:46408 16	rc_AA893217 EST197020 Rattus norvegicus cDNA, 3' end /clone=RKIBD65 /clone_end=3 /gb=AA893217 /gi=3020096 /ug=Rn.1431 /len=663
AA8932 30	6022	No Rat Protein Found.	AF308287 6023	No Human Protein Found.	85.23	Mus musculus adult male tongue cDNA, RIKEN	rc_AA893230 EST197033 Rattus norvegicus cDNA, 3' end /clone=RKIBD83 /clone_end=3 /gb=AA893230 /gi=3020108 /ug=Rn.13485 /len=646
AA8932 60	6024	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		long interspersed repeated element LINE	rc_AA893260 EST197063 Rattus norvegicus cDNA, 3' end /clone=RKIBE21 /clone_end=3 /gb=AA893260 /gi=3020139 /ug=Rn.3550 /len=512
AA8932 89	6025	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	rc_AA893289 EST197092 Rattus norvegicus cDNA, 3' end /clone=RKIBE58 /clone_end=3 /gb=AA893289 /gi=3020168 /ug=Rn.13493 /len=286

Table 2.

AA8933 20	6026	No Rat Protein Found.	6028	No human homolog found.	6029	No Human Protein Found.	6030	84	EST(not recognised)	rc_AA893320 EST197123 Rattus norvegicus cDNA, 3 end /clone=RKIBF04 /clone_end=3 /gb=AA893320 /gi=3020199 /ug=Rn.13340 /len=370
AA8933 28	6027	P35565	6028	L10284	6029	P27824	6030	84	ESTs, Highly similar to CALX RAT CALNEXIN PRECURSOR [R.norvegicus]	rc_AA893328 EST197131 Rattus norvegicus cDNA, 3 end /clone=RKIBF14 /clone_end=3 /gb=AA893328 /gi=3020207 /ug=Rn.22687 /len=362
AA8933 38	6031	No Rat Protein Found.	6031	BC008045	6032	No Human Protein Found.	6033	95.18	Mus musculus adult male lung cDNA, RIKEN	rc_AA893338 EST197141 Rattus norvegicus cDNA, 3 end /clone=RKIBF24 /clone_end=3 /gb=AA893338 /gi=3020217 /ug=Rn.25105 /len=519
AA8934 06	6034	No Rat Protein Found.	6034	No human homolog found.	6037	No Human Protein Found.	6038	86	EST(not recognised)	rc_AA893406 EST197209 Rattus norvegicus cDNA, 3 end /clone=RLIAB05 /clone_end=3 /gb=AA893406 /gi=3020285 /ug=Rn.8150 /len=493
AA8934 43	6035	AAA927 87	6036	NM_0156 46	6037	P09526	6038	86	Rap1B	rc_AA893443 EST197246 Rattus norvegicus cDNA, 3 end /clone=RLIAB52 /clone_end=3 /gb=AA893443 /gi=3020322 /ug=Rn.4992 /len=548
AA8934 54	6039	No Rat Protein Found.	6039	No human homolog found.	6042	No Human Protein Found.	6043	93	EST(not recognised)	rc_AA893454 EST197257 Rattus norvegicus cDNA, 3 end /clone=RLIAB64 /clone_end=3 /gb=AA893454 /gi=3020333 /ug=Rn.7329 /len=387
AA8934 71	6040	NP_035 391	6041	NM_0050 45	6042	P78509	6043	93	reelin (Reln), NM_01126 1	rc_AA893471 EST197274 Rattus norvegicus cDNA, 3 end /clone=RLIAB84 /clone_end=3 /gb=AA893471 /gi=3020350 /ug=Rn.11927 /len=354
AA8935 32	6044	AK0140 63	6044	No human homolog found.	6044	No Human Protein Found.	6044	EST (mouse Riken protein)	rc_AA893532 EST197335 Rattus norvegicus cDNA, 3 end /clone=RLIAD60 /clone_end=3 /gb=AA893532 /gi=3020411 /ug=Rn.12953 /len=598	
AA8935 69	6045	No Rat Protein Found.	6045	No human homolog found.	6045	No Human Protein Found.	6045	EST (not recognized)	rc_AA893569 EST197372 Rattus norvegicus cDNA, 3 end /clone=RPLAC07 /clone_end=3 /gb=AA893569 /gi=3020448 /ug=Rn.12954 /len=461	

Table 2.

AA8935 96	6046 67	AK0160 67	6047	BC003542	6048	AAH035 42	6049	Mouse RIKEN full-length cDNA	AF057285	rc_AA893598 EST197399 Rattus norvegicus cDNA, 3' end /clone=RPLAC38 /clone_end=3 /gb=AA893598 /gi=3020475 /ug=Rn.22237 /len=564
AA8935 96	6050 67	AK0160 67	6051	BC003542	6052	AAH035 42	6053	Mouse RIKEN full-length cDNA	AF057285	rc_AA893598 EST197399 Rattus norvegicus cDNA, 3' end /clone=RPLAC38 /clone_end=3 /gb=AA893598 /gi=3020475 /ug=Rn.22237 /len=564
AA8936 03	6054	No Rat Protein Found.		No human homolog found.	No	Human Protein Found.		EST (not recognized)	AB035381	rc_AA893603 EST197408 Rattus norvegicus cDNA, 3' end /clone=RPLAC48 /clone_end=3 /gb=AA893603 /gi=3020482 /ug=Rn.14813 /len=511
AA8936 03	6055	No Rat Protein Found.		No human homolog found.	No	Human Protein Found.		EST (not recognized)	AF057285	rc_AA893603 EST197406 Rattus norvegicus cDNA, 3' end /clone=RPLAC46 /clone_end=3 /gb=AA893603 /gi=3020482 /ug=Rn.14813 /len=511
AA8936 12	6056 475	AAC97 475	6057	XM_03440 3	XP_034 403	XP_034 403	86	Intersectin-EH binding protein lbp1	AF057285	rc_AA893612 EST197415 Rattus norvegicus cDNA, 3' end /clone=RPLAC57 /clone_end=3 /gb=AA893612 /gi=3020491 /ug=Rn.14814 /len=265
AA8936 12	6058 475	AAC97 475	6059	XM_03440 3	XP_034 403	XP_034 403	86	Intersectin-EH binding protein lbp1	AF057285	rc_AA893612 EST197415 Rattus norvegicus cDNA, 3' end /clone=RPLAC57 /clone_end=3 /gb=AA893612 /gi=3020491 /ug=Rn.14814 /len=265
AA8936 21	6060 95	BAB200 95	6061	NM_0204 10	Q8HD20	Q8HD20	89.68	Mus musculus catp mRNA for cation- transporting atpase	AB035381	rc_AA893621 EST197424 Rattus norvegicus cDNA, 3' end /clone=RPLAC88 /clone_end=3 /gb=AA893621 /gi=3020500 /ug=Rn.3697 /len=607
AA8936 41	6064	Q8QXQ 7	6065	AL390088	6066	P41221	89.05	ESTs, Highly similar to WN5A_RAT WNT-5A PROTEIN PRECURSOR [R.norvegicus]		rc_AA893641 EST197444 Rattus norvegicus cDNA, 3' end /clone=RPLAC90 /clone_end=3 /gb=AA893641 /gi=3020520 /ug=Rn.3699 /len=508

Table 2.

AA8936 41	6068	Q9QXQ 7	6069	AL390088	6070	P41221	6071	89.05	ESTs, Highly similar to WN5A_RAT WNT-5A PROTEIN PRECURSOR [R.norvegicus]		rc_AA893661 EST197444 Rattus norvegicus cDNA, 3' end /clone=RPLAC90 /clone_end=3 /gb=AA893641 /gi=3020520 /ug=Rn.3699 /len=508
AA8936 62	6072	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA893662 EST197466 Rattus norvegicus cDNA, 3' end /clone=RPLAI16 /clone_end=3 /gb=AA893662 /gi=3020541 /ug=Rn.14817 /len=457
AA8936 63	6073	NP_033 209	6074	AA833803	6075	NP_005 659	6076	84.35	slatyltransfera see 8	NM_00918 3	rc_AA893663 EST197466 Rattus norvegicus cDNA, 3' end /clone=RPLAI18 /clone_end=3 /gb=AA893663 /gi=3020542 /ug=Rn.13170 /len=520
AA8936 64	6077	No Rat Protein Found.		D38521	6078	No Human Protein Found.		90.91	Homo sapiens BAC clone RP11-334F17 from 2		rc_AA893664 EST197467 Rattus norvegicus cDNA, 3' end /clone=RPLAI19 /clone_end=3 /gb=AA893664 /gi=3020543 /ug=Rn.14818 /len=409
AA8936 67	6079	AAK697 54	6080	BC007235	6081	AF3785 24	6082	92.26	Mus musculus nih283 mRNA	AF378525	rc_AA893667 EST197470 Rattus norvegicus cDNA, 3' end /clone=RPLAI23 /clone_end=3 /gb=AA893667 /gi=3020546 /ug=Rn.4237 /len=485
AA8936 67	6083	AAK697 54	6084	BC007235	6085	AF3785 24	6086	92.26	Mus musculus nih283 mRNA	AF378525	rc_AA893667 EST197470 Rattus norvegicus cDNA, 3' end /clone=RPLAI23 /clone_end=3 /gb=AA893667 /gi=3020546 /ug=Rn.4237 /len=485
AA8936 67	6087	AAK697 54	6088	BC007235	6089	AF3785 24	6090	92.26	Mus musculus nih283 mRNA	AF378525	rc_AA893667 EST197470 Rattus norvegicus cDNA, 3' end /clone=RPLAI23 /clone_end=3 /gb=AA893667 /gi=3020546 /ug=Rn.4237 /len=485
AA8936 67	6091	AAK697 54	6092	BC007235	6093	AF3785 24	6094	92.26	Mus musculus nih283 mRNA	AF378525	rc_AA893667 EST197470 Rattus norvegicus cDNA, 3' end /clone=RPLAI23 /clone_end=3 /gb=AA893667 /gi=3020546 /ug=Rn.4237 /len=485
AA8936 67	6095	AAK697 54	6096	BC007235	6097	AF3785 24	6098	92.26	Mus musculus nih283 mRNA	AF378525	rc_AA893667 EST197470 Rattus norvegicus cDNA, 3' end /clone=RPLAI23 /clone_end=3 /gb=AA893667 /gi=3020546 /ug=Rn.4237 /len=485

Table 2.

AA8936 67	6099	AAK697 54	6100	BC007235	6101	AF3785 24	6102	92.26	Mus musculus nln283 mRNA	AF378525	rc_AA893687 EST197470 Rattus norvegicus cDNA, 3' end /clone=RPLAI23 /clone_end=3 /gb=AA893687 /gi=3020548 /ug=Rn.4237 /len=485
AA8936 70	6103	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA893670 EST197473 Rattus norvegicus cDNA, 3' end /clone=RPLAI28 /clone_end=3 /gb=AA893670 /gi=3020548 /ug=Rn.22763 /len=461
AA8936 83	6104	NP_061 283	6105	NM_0162 07	6106	Q9UKF6	6107	87.11	Mus musculus cleavage and polyadenylation specificity factor 3	NM_01881 3	rc_AA893683 EST197488 Rattus norvegicus cDNA, 3' end /clone=RPLAI40 /clone_end=3 /gb=AA893683 /gi=3020562 /ug=Rn.14820 /len=497
AA8936 90	6108	NP_062 308	6109	AA286860	6110	AAH106 65	6111	87.5	Mus musculus neuronal protein 15.6 (Np15.6- pending)	NM_01843 5	rc_AA893690 EST197483 Rattus norvegicus cDNA, 3' end /clone=RPLAI47 /clone_end=3 /gb=AA893690 /gi=3020569 /ug=Rn.3377 /len=492
AA8937 17	6112	AAH10 715	6113	AL136794	6114	CAB687 28	6115		Mus musculus, Rac GTPase- activating protein 1 (LOW HOMOLOGY)	BC010715	rc_AA893717 EST197520 Rattus norvegicus cDNA, 3' end /clone=RPLAI79 /clone_end=3 /gb=AA893717 /gi=3020598 /ug=Rn.19950 /len=472
AA8937 33	6116	S40148		M34480	6117	P08514	6118	86.86	ESTs, Weakly similar to S40148 integrin alpha- 7A chain - rat [R.norvegicus]		rc_AA893733 EST197538 Rattus norvegicus cDNA, 3' end /clone=RPLAK02 /clone_end=3 /gb=AA893733 /gi=3020612 /ug=Rn.14827 /len=400

Table 2.

AA8937 42	6119	NP_038 944	6120	AI377110	6121	No Human Protein Found.	95.28	Mus musculus Hoxa1 regulated gene (Ha1r- pending), mRNA	NM_01391 6	rc_AA893742 EST197545 Rattus norvegicus cDNA, 3' end /clone=RPLAK13 /clone_end=3 /gb=AA893742 /gi=3020621 /ug=Rn.13504 /len=455
AA8937 43	6122	No Rat Protein Found.		AI092788	6123	P04541	89.32	EST (not recognised)		rc_AA893743 EST197546 Rattus norvegicus cDNA, 3' end /clone=RPLAK14 /clone_end=3 /gb=AA893743 /gi=3020622 /ug=Rn.8002 /len=520
AA8937 43	6125	No Rat Protein Found.		AI092788	6126	P04541	89.32	EST (not recognised)		rc_AA893743 EST197546 Rattus norvegicus cDNA, 3' end /clone=RPLAK14 /clone_end=3 /gb=AA893743 /gi=3020622 /ug=Rn.8002 /len=520
AA8938 21	6128	BA8261 37	6129	XM_01584 6	6130	XP_015 846	6131	Hypothetical proteins		rc_AA893821 EST197624 Rattus norvegicus cDNA, 3' end /clone=RPLAM01 /clone_end=3 /gb=AA893821 /gi=3020700 /ug=Rn.12544 /len=422
AA8938 70	6132	No Rat Protein Found.		M11167	6133	No Human Protein Found.		28S ribosomal RNA gene		rc_AA893870 EST197673 Rattus norvegicus cDNA, 3' end /clone=RPLAM86 /clone_end=3 /gb=AA893870 /gi=3020749 /ug=Rn.11229 /len=417
AA8938 70	6134	No Rat Protein Found.		M11167	6135	No Human Protein Found.		28S ribosomal RNA gene	V01270	rc_AA893870 EST197673 Rattus norvegicus cDNA, 3' end /clone=RPLAM86 /clone_end=3 /gb=AA893870 /gi=3020749 /ug=Rn.11229 /len=417
AA8938 70	6136	No Rat Protein Found.		M11167	6137	No Human Protein Found.		28S ribosomal RNA gene		rc_AA893870 EST197673 Rattus norvegicus cDNA, 3' end /clone=RPLAM86 /clone_end=3 /gb=AA893870 /gi=3020749 /ug=Rn.11229 /len=417
AA8938 70	6138	No Rat Protein Found.		M11167	6139	No Human Protein Found.		28S ribosomal RNA gene	V01270	rc_AA893870 EST197673 Rattus norvegicus cDNA, 3' end /clone=RPLAM86 /clone_end=3 /gb=AA893870 /gi=3020749 /ug=Rn.11229 /len=417

Table 2.

AA8938 71	6140	No Rat Protein Found.	6140	No human homolog found.	No Human Protein Found.		EST(not recognised)	rc_AA893871 EST197874 Rattus norvegicus cDNA, 3' end /clone=RPLAM87 /clone_end=3 /gb=AA893871 /gi=3020750 /ug=Rn.8155 /len=610
AA8939 24	6141	AAF739 64	6142	BC013946	Q9Y2Y9	6144	Mus musculus erythroid transcription factor FKL-2	rc_AA893924 EST197727 Rattus norvegicus cDNA, 3' end /clone=RPLAN55 /clone_end=3 /gb=AA893924 /gi=3020803 /ug=Rn.7654 /len=428
AA8939 39	6145	NP_033 195	6146	XM_04448 8	XP_044 488		Mus musculus split hand/foot deleted gene 1	rc_AA893939 EST197742 Rattus norvegicus cDNA, 3' end /clone=RPLAN70 /clone_end=3 /gb=AA893939 /gi=3020818 /ug=Rn.8472 /len=416
AA8939 46	6147	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST (not recognised)	rc_AA893946 EST197749 Rattus norvegicus cDNA, 3' end /clone=RPLAN77 /clone_end=3 /gb=AA893946 /gi=3020825 /ug=Rn.4227 /len=421
AA8939 46	6148	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST (not recognised)	rc_AA893946 EST197749 Rattus norvegicus cDNA, 3' end /clone=RPLAN77 /clone_end=3 /gb=AA893946 /gi=3020825 /ug=Rn.4227 /len=421
AA8939 70	6149	No Rat Protein Found.		AK024327		6150	Homo sapiens cDNA FLJ14265 fls, clone PLACE10022 56	rc_AA893970 EST197773 Rattus norvegicus cDNA, 3' end /clone=RPLAO08 /clone_end=3 /gb=AA893970 /gi=3020848 /ug=Rn.12886 /len=520
AA8939 80	6151	No Rat Protein Found.		AL050155		6152	EST(not recognised)	rc_AA893980 EST197783 Rattus norvegicus cDNA, 3' end /clone=RPLAO19 /clone_end=3 /gb=AA893980 /gi=3020859 /ug=Rn.7498 /len=484



Table 2.

AA8939 80	6153	No Rat Protein Found.	AL050155	6154	No Human Protein Found.	90.59	EST (not recognised)	rc_AA893980 EST197783 Rattus norvegicus cDNA, 3' end /clone=RPLAO19 /clone_end=3 /gb=AA893980 /gi=3020859 /ug=Rn.7498 /len=484
AA8939 80	6155	No Rat Protein Found.	AL050155	6156	No Human Protein Found.	90.59	EST(not recognised)	rc_AA893980 EST197783 Rattus norvegicus cDNA, 3' end /clone=RPLAO19 /clone_end=3 /gb=AA893980 /gi=3020859 /ug=Rn.7498 /len=484
AA8939 80	6157	No Rat Protein Found.	AL050155	6158	No Human Protein Found.	90.59	EST (not recognised)	rc_AA893980 EST197783 Rattus norvegicus cDNA, 3' end /clone=RPLAO19 /clone_end=3 /gb=AA893980 /gi=3020859 /ug=Rn.7498 /len=484
AA8939 84	6159	No Rat Protein Found.	NM_0307 78	6160	XP_029 757	93.8	Homo Sapiens hypothetical protein PRO1331	rc_AA893984 EST197787 Rattus norvegicus cDNA, 3' end /clone=RPLAO23 /clone_end=3 /gb=AA893984 /gi=3020863 /ug=Rn.21428 /len=443
AA8940 29	6162	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST(not recognised)	rc_AA894029 EST197832 Rattus norvegicus cDNA, 3' end /clone=RPLAO74 /clone_end=3 /gb=AA894029 /gi=3020908 /ug=Rn.13512 /len=498
AA8940 84	6163	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST(not recognised)	rc_AA894084 EST197887 Rattus norvegicus cDNA, 3' end /clone=RSPAQ35 /clone_end=3 /gb=AA894084 /gi=3020963 /ug=Rn.14852 /len=621
AA8940 88	6164	No Rat Protein Found.	No human homolog found.		No Human Protein Found.		EST (not recognised)	rc_AA894088 EST197891 Rattus norvegicus cDNA, 3' end /clone=RSPAQ62 /clone_end=3 /gb=AA894088 /gi=3020967 /ug=Rn.14853 /len=647
AA8940 99	6165	BAB318 73	NM_0056 06	6167	Q99538	93.75	Vacuolar sorting protein 4	rc_AA894099 EST197802 Rattus norvegicus cDNA, 3' end /clone=RSPAQ77 /clone_end=3 /gb=AA894099 /gi=3020978 /ug=Rn.12477 /len=580

Table 2.

AA8941 04	6169	BA8620 16	6170	XM_02760 6	XP_027 606			Mus musculus peas mRNA for intercellular mediator	AB053465	rc_AA894104 EST197907 Rattus norvegicus cDNA, 3' end /clone=RSPAQ82 /clone_end=3 /gb=AA894104 /gi=3020983 /ug=Rn.3260 /len=350
AA8941 19	6171	No Rat Protein Found.	6172	AF070815	Q8UN86	6173	95.1	Ras-GTPase activating protein SH3 domain- binding protein 2		rc_AA894119 EST197922 Rattus norvegicus cDNA, 3' end /clone=RSPAR07 /clone_end=3 /gb=AA894119 /gi=3020988 /ug=Rn.22084 /len=362
AA8941 30	6174	AAD22 174	6176	U78095	O43291	6177	83.45	hepatocyte growth factor activator inhibitor type 2	AF098020	rc_AA894130 EST197933 Rattus norvegicus cDNA, 3' end /clone=RSPAR25 /clone_end=3 /gb=AA894130 /gi=3021008 /ug=Rn.3857 /len=494
AA8941 31	6178	No Rat Protein Found.	6179	U78082	No Human Protein Found.	6180	96.85	Mus musculus adult male cerebellum cDNA, RIKEN		rc_AA894131 EST197834 Rattus norvegicus cDNA, 3' end /clone=RSPAR26 /clone_end=3 /gb=AA894131 /gi=3021010 /ug=Rn.12960 /len=455
AA8941 48	6181	AAA407 48	6183	M14542	P06727	6184	59	Rat apolipoprotein A-IV gene (NB double cDNA with ribosomal)	M13508	rc_AA894148 EST197951 Rattus norvegicus cDNA, 3' end /clone=RSPAR57 /clone_end=3 /gb=AA894148 /gi=3021027 /ug=Rn.15739 /len=447
AA8941 60	6185	AAK770 01	6187	U78971	NP_006 550	6188	91.58	src associated in mitosis SAM68	AF393783	rc_AA894160 EST197963 Rattus norvegicus cDNA, 3' end /clone=RSPAR74 /clone_end=3 /gb=AA894160 /gi=3021039 /ug=Rn.22762 /len=441
AA8941 74	6188	AAA411 30	6191	BE536809	P13804	6192	97.06	Rat electron transfer flavoprotein (ETF) alpha- subunit DNA, 3' end		rc_AA894174 EST197977 Rattus norvegicus cDNA, 3' end /clone=RSPAS05 /clone_end=3 /gb=AA894174 /gi=3021053 /ug=Rn.1158 /len=639

Table 2.

AA8941 74	6193	AAA411 30	6194	BE535809	6195	P13804	6196	97.06	Rat electron transfer flavoprotein (ETF) alpha- subunit DNA, 3' end	rc_AA894174 EST197977 Rattus norvegicus cDNA, 3' end /clone=RSPAS05 /clone_end=3 /gb=AA894174 /gi=3021053 /ug=Rn.1158 /len=639
AA8941 74	6197	AAA411 30	6198	BE535809	6199	P13804	6200	97.06	Rat electron transfer flavoprotein (ETF) alpha- subunit DNA, 3' end	rc_AA894174 EST197977 Rattus norvegicus cDNA, 3' end /clone=RSPAS05 /clone_end=3 /gb=AA894174 /gi=3021053 /ug=Rn.1158 /len=639
AA8941 74	6201	AAA411 30	6202	BE535809	6203	P13804	6204	97.06	Rat electron transfer flavoprotein (ETF) alpha- subunit DNA, 3' end	rc_AA894174 EST197977 Rattus norvegicus cDNA, 3' end /clone=RSPAS05 /clone_end=3 /gb=AA894174 /gi=3021053 /ug=Rn.1158 /len=639
AA8941 74	6205	AAA411 30	6206	BE535809	6207	P13804	6208	97.06	Rat electron transfer flavoprotein (ETF) alpha- subunit DNA, 3' end	rc_AA894174 EST197977 Rattus norvegicus cDNA, 3' end /clone=RSPAS05 /clone_end=3 /gb=AA894174 /gi=3021053 /ug=Rn.1158 /len=639
AA8941 74	6209	AAA411 30	6210	BE535809	6211	P13804	6212	97.06	Rat electron transfer flavoprotein (ETF) alpha- subunit DNA, 3' end	rc_AA894174 EST197977 Rattus norvegicus cDNA, 3' end /clone=RSPAS05 /clone_end=3 /gb=AA894174 /gi=3021053 /ug=Rn.1158 /len=639
AA8941 89	6213	No Rat Protein Found.		AL137665	6214	Q98RT7	6215	86.38	EST (not recognized)	rc_AA894189 EST197992 Rattus norvegicus cDNA, 3' end /clone=RSPAS35 /clone_end=3 /gb=AA894189 /gi=3021068 /ug=Rn.3748 /len=644
AA8941 93	6216	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)	rc_AA894193 EST197996 Rattus norvegicus cDNA, 3' end /clone=RSPAS42 /clone_end=3 /gb=AA894193 /gi=3021072 /ug=Rn.11542 /len=584

AA894199	6217	No Rat Protein Found.	8218	AAF17574	6219	AI008470	No human homolog found.	6220	075718	8221	92.65	ESTs, Moderately similar to UBPL_MOUSE UBIQUITIN CARBOXYL-TERMINAL HYDROLASE 18 (UBIQUITIN THIOLESTERASE 18) (UBIQUITIN-SPECIFIC PROCESSING PROTEASE 18) (DEUBIQUITINATING ENZYME 18) (43 KDA UBIQUITIN-SPECIFIC PROTEASE) [M.musculus]	EST(not recognised)	AF202453	rc_AA894199 EST198002 Rattus norvegicus cDNA, 3 end /clone=RSPAS58 /clone_end=3 /gb=AA894199 /gi=3021078 /ug=Rn.22785 /len=555	rc_AA894207 EST188010 Rattus norvegicus cDNA, 3 end /clone=RSPAS77 /clone_end=3 /gb=AA894207 /gi=3021086 /ug=Rn.808 /len=630
AA894199	6217	No Rat Protein Found.	8218	AAF17574	6219	AI008470	No human homolog found.	6220	075718	8221	92.65	ESTs, Moderately similar to UBPL_MOUSE UBIQUITIN CARBOXYL-TERMINAL HYDROLASE 18 (UBIQUITIN THIOLESTERASE 18) (UBIQUITIN-SPECIFIC PROCESSING PROTEASE 18) (DEUBIQUITINATING ENZYME 18) (43 KDA UBIQUITIN-SPECIFIC PROTEASE) [M.musculus]	EST(not recognised)	AF202453	rc_AA894199 EST198002 Rattus norvegicus cDNA, 3 end /clone=RSPAS58 /clone_end=3 /gb=AA894199 /gi=3021078 /ug=Rn.22785 /len=555	rc_AA894207 EST188010 Rattus norvegicus cDNA, 3 end /clone=RSPAS77 /clone_end=3 /gb=AA894207 /gi=3021086 /ug=Rn.808 /len=630

Table 2.

AA8942 07	6222	AAF175 74	6223	AJ008470	6224	O75718	6225	92.65	ESTs, Moderately similar to UBP1_MOUSE UBIQUITIN CARBOXYL- TERMINAL HYDROLASE 18 (UBIQUITIN THIOLESTER ASE 18) (UBIQUITIN- SPECIFIC PROCESSIN G PROTEASE 18) (DEUBIQUITI NATING ENZYME 18) (43 KDA UBIQUITIN- SPECIFIC PROTEASE) [M.musculus]	AF202453	rc_AA894207 EST198010 Rattus norvegicus cDNA, 3' end /clone=RSPAS77 /clone_end=3 /gb=AA894207 /gi=3021086 /ug=Rn.806 /len=630
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Table 2.

AA8842 07	6226	AAF175 74	6227	AJ006470	6228	O75718	6229	92.65	ESTs, Moderately similar to UBP_MOUSE UBIQUITIN CARBOXYL- TERMINAL HYDROLASE 18 (UBIQUITIN THIOLESTER ASE 18) (UBIQUITIN- SPECIFIC PROCESSIN G PROTEASE 18) (DEUBIQUITI NATING ENZYME 18) (43 KDA UBIQUITIN- SPECIFIC PROTEASE) [M.musculus]	AF202453	tc_AA884207 EST198010 Rattus norvegicus cDNA, 3' end /clone=RSPAS77 /clone_end=3 /gb=AA884207 /gi=3021086 /ug=Rn.806 /len=630
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Table 2.

AA894207	6230	AAF17574	6231	AJ006470	6232	O75718	6233	92.65	ESTs, Moderately similar to UBPL_MOUSE UBIQUITIN CARBOXYL-TERMINAL HYDROLASE 18 (UBIQUITIN THIOLESTERASE 18) (UBIQUITIN-SPECIFIC PROCESSING PROTEASE 18) (DEUBIQUITINATING ENZYME 18) (43 KDA UBIQUITIN-SPECIFIC PROTEASE) [M.musculus]	AF202453	tc_AA894207 EST198010 Rattus norvegicus cDNA, 3' end /clone=RSPAS77 /clone_end=3 /gb=AA894207 /gi=3021088 /ug=Rn.808 /len=630	
AA894234	6234	No Rat Protein Found.	6237	BG715448	6235	No Human Protein Found.	6239	92.62	Mus musculus 10 days embryo cDNA, RIKEN		tc_AA894234 EST198037 Rattus norvegicus cDNA, 3' end /clone=RSPAT45 /clone_end=3 /gb=AA894234 /gi=3021113 /ug=Rn.22767 /len=461	
AA894258	6236	P47986	6237	U39318	6238	P47986	6239	97.74	expressed in high-metastatic cells (ehm gene)	NM_019427	tc_AA894258 EST198081 Rattus norvegicus cDNA, 3' end /clone=RSPAU08 /clone_end=3 /gb=AA894258 /gi=3021137 /ug=Rn.6130 /len=672	Ubiquitin-conjugating enzyme E2-17 kDa 3 (EC 6.3.2.19) (Ubiquitin-protein ligase) (Ubiquitin carrier protein) (E2(17)KB 3).

Table 2.

AA894273	6240	O08557	6241	AK001459	6242	No Human Protein Found.	6243	98.01	Rat endogenous retroviral sequence, 5' and 3' LTR	D90005	rc_AA894273 EST198076 Rattus norvegicus cDNA, 3 end /clone=RSPAU42 /clone_end=3 /gb=AA894273 /gi=3021152 /ug=Rn.6477 /len=573	"NG,NG-dimethylarginine dimethylaminohydrolase 1 (EC 3.5.3.16)(Dimethylargininase 1) (Dimethylargininase)"
AA894277	6244	BAB25613	6245	No human homolog found.	6250	No Human Protein Found.	6251	83.44	RIKEN full-length cDNA (mouse)	AK008338	rc_AA894277 EST198080 Rattus norvegicus cDNA, 3 end /clone=RSPAU53 /clone_end=3 /gb=AA894277 /gi=3021156 /ug=Rn.3681 /len=572	
AA894277	6246	BAB25613	6247	No human homolog found.	6250	No Human Protein Found.	6251	83.44	RIKEN full-length cDNA (mouse)	AK008338	rc_AA894277 EST198080 Rattus norvegicus cDNA, 3 end /clone=RSPAU53 /clone_end=3 /gb=AA894277 /gi=3021156 /ug=Rn.3681 /len=572	
AA894282	6248	No Rat Protein Found.		No human homolog found.	6250	No Human Protein Found.	6251	83.44	EST(not recognised)		rc_AA894282 EST198085 Rattus norvegicus cDNA, 3 end /clone=RSPAU86 /clone_end=3 /gb=AA894282 /gi=3021161 /ug=Rn.3985 /len=552	
AA894304	6249	No Rat Protein Found.		M80889	6250	Q08686	6251	83.44	Mus musculus 18 days embryo cDNA, RIKEN		rc_AA894304 EST198107 Rattus norvegicus cDNA, 3 end /clone=RSPAW33 /clone_end=3 /gb=AA894304 /gi=3021163 /ug=Rn.90 /len=530	
AA894305	6252	No Rat Protein Found.		AI221059	6253	No Human Protein Found.	6251	86	Mus musculus 13 days embryo head cDNA, RIKEN		rc_AA894305 EST198108 Rattus norvegicus cDNA, 3 end /clone=RSPAW34 /clone_end=3 /gb=AA894305 /gi=3021184 /ug=Rn.8173 /len=621	



Table 2.

AA8943 16	6254	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST (not recognized)	rc_AA894316 EST198119 Rattus norvegicus cDNA, 3 end /clone=RSPAW50 /clone_end=3 /gb=AA894316 /gi=3021195 /ug=Rn.22923 /len=479	Calcium/calmod ulin-dependent protein kinase type II delta chain (EC2.7.1.123) (CaM-kinase II delta chain) (CaM kinase II delta subunit)(CaMK- II delta subunit).
AA8943 18	6255	No Rat Protein Found.	6256	AB040972	No Human Protein Found.	95.57	Mouse BAC ClbCJ7 218m7, genomic sequence	rc_AA894318 EST198121 Rattus norvegicus cDNA, 3 end /clone=RSPAW53 /clone_end=3 /gb=AA894318 /gi=3021197 /ug=Rn.4127 /len=569	
AA8943 30	6257	P15791	6258	AF071569	Q13557	92.9	Ca++/calmodu lin-dependent protein kinase II, delta subunit	rc_AA894330 EST198133 Rattus norvegicus cDNA, 3 end /clone=RSPAW76 /clone_end=3 /gb=AA894330 /gi=3021208 /ug=Rn.122 /len=501	
AA8943 40	6261	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST(not recognised)	rc_AA894340 EST198143 Rattus norvegicus cDNA, 3 end /clone=RSPAZ08 /clone_end=3 /gb=AA894340 /gi=3021218 /ug=Rn.7359 /len=580	
AA8943 45	6262	CAB51 573	6263	L37385	Q15121	92.56	astrocytic phosphoprotei n	rc_AA894345 EST198148 Rattus norvegicus cDNA, 3 end /clone=RSPAZ21 /clone_end=3 /gb=AA894345 /gi=3021224 /ug=Rn.13530 /len=510	
AA8993 20	6266	No Rat Protein Found.	6267	XM_02831 4	XP_029 314	6268	Homo sapiens NADH dehydrogenas e	rc_AA899320 U1-R-E0-cz-b-11-Q-U1.s1 Rattus norvegicus cDNA, 3 end /clone=U1-R- E0-cz-b-11-Q-U1 /clone_end=3 /gb=AA899320 /gi=3034674 /ug=Rn.13584 /len=428	

Table 2.

AA900199	6269	No Rat Protein Found.	AF035840	6270	O85139	6271	89.91	Rattus norvegicus DD6C4-4 mRNA, partial sequence (LOW HOMOLOGYY)	AA900199	rc_AA900199 UI-R-A0-bh-h-06-O-UI.s4 Rattus norvegicus cDNA, 3 end /clone=UI-R-A0-bh-h-06-O-UI /clone_end=3 /gb=AA900199 /gi=3035553 /ug=Rn.22832 /len=375		
AA900413	6272	AAH05796	6273	6274	I37287		91.84	ESTs, Highly similar to DYR MOUSE DIHYDROFOLATE REDUCTASE [M.musculus]	BC005796	rc_AA900413 UI-R-E0-dl-e-12-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-dl-e-12-O-UI /clone_end=3 /gb=AA900413 /gi=3035767 /ug=Rn.15056 /len=449		
AA900476	6275	AAK30621	6276	6277	Q99967	6278	96.64	transcription factor MRG1	AF361476	rc_AA900476 UI-R-E0-bw-c-12-O-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bw-c-12-O-UI /clone_end=3 /gb=AA900476 /gi=3035830 /ug=Rn.221 /len=463		
AA900476	6279	AAK30621	6280	6281	Q99967	6282	96.64	transcription factor MRG1	AF361476	rc_AA900476 UI-R-E0-bw-c-12-O-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bw-c-12-O-UI /clone_end=3 /gb=AA900476 /gi=3035830 /ug=Rn.221 /len=463		
AA900503	6283	Q63722	6284	6285	P78504	6286	96	Jagged 1	NM_019147	rc_AA900503 UI-R-E0-dl-b-05-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-dl-b-05-O-UI /clone_end=3 /gb=AA900503 /gi=3035857 /ug=Rn.11254 /len=495	Type I membrane protein.	Jagged 1 precursor (Jagged1).
AA900582	6287	P06238	6288	6289	XP_006925	6290	71	Alpha-2-macroglobulin	NM_012488	rc_AA900582 UI-R-E0-dn-b-10-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-dn-b-10-O-UI /clone_end=3 /gb=AA900582 /gi=3035936 /ug=Rn.780 /len=495		Alpha-2-macroglobulin precursor (Alpha-2-M).

Table 2.

AA9008 48	6291	P15800	6292	X79683	6293	P55268	6294	81	laminin chain beta 2	NM_01297 4	rc_AA900848 UI-R-E0-dk-a-04-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-dk-a-04-O-UI /clone_end=3 /gb=AA900848 /gi=3036202 /ug=Rn.850 /len=504	Extracellular.	Laminin beta-2 chain precursor (S-laminin) (Laminin chain B3).
AA9240 84	6295	P35213	6296	No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA924084 UI-R-A1-du-g-05-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- A1-du-g-05-O-UI /clone_end=3 /gb=AA924084 /gi=3071220 /ug=Rn.8663 /len=440	Cytoplasmic.	14-3-3 protein beta/alpha (Protein kinase C inhibitor protein-1)(KCIP- 1) (Prepronerve growth factor RNH-1).
AA9247 72	6297	P37361	6298	No human homolog found.		No Human Protein Found.			Growth inhibitory factor=metallo thionein homolog	S65838	rc_AA924772 UI-R-A1-eb-f-02-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A1-eb-f- 02-O-UI /clone_end=3 /gb=AA924772 /gi=3071908 /ug=Rn.11325 /len=372		Metallothionein- III (MT-III) (Growth inhibitory factor) (GIF).
AA9249 09	6299	P25094	6300	M84048	6301	Q01453	6302	91.3	Peripheral myelin protein		rc_AA924909 UI-R-A1-eg-b-11-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- A1-eg-b-11-O-UI /clone_end=3 /gb=AA924909 /gi=3072045 /ug=Rn.1476 /len=557	Integral membrane protein.	Peripheral myelin protein 22 (PMP-22) (CD25 protein) (SRT3 myelinprotein).
AA9252 46	6303	O35186	6304	X82153	6305	P43235	6306	87.8	Cathepsin K	NM_03156 0	rc_AA925246 UI-R-A1-eh-h-08-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- A1-eh-h-08-O-UI /clone_end=3 /gb=AA925246 /gi=3072382 /ug=Rn.5598 /len=513		Cathepsin K precursor (EC 3.4.22.38).
AA9252 48	6307	CAA70 384	6308	M91556	6309	Q01118	6310	87.86	sodium channel.	Y09164	rc_AA925248 UI-R-A1-eh-h-08-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- A1-eh-h-08-O-UI /clone_end=3 /gb=AA925248 /gi=3072384 /ug=Rn.8032 /len=501		

Table 2.

AA925300	6311	AA803535	6312	XM_044378	XP_044378	96	Mus musculus MEK kinase 3	U43187	rc_AA925300 UI-R-A1-ek-e-08-Q-UJ.s1 UI-R-A1 Rattus norvegicus cDNA clone UI-R-A1-ek-e-08-Q-UJ 3 similar to Mus musculus MEK kinase 3, mRNA, partial cds, mRNA sequence [Rattus norvegicus]	Guanine nucleotide-binding protein G(I)/G(S)/G(O) gamma-7 subunit.
AA925473	6313	AAF15538	6314	BG180991	XP_032919	99.06	cell division cycle 42	AF205635	rc_AA925473 UI-R-A1-ep-a-02-Q-UJ.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-ep-a-02-Q-UJ /clone_end=3 /gb=AA925473 /gi=3072609 /ug=Rn.8112 /len=519	
AA925473	6316	AAF15538	6317	BG180991	XP_032919	99.06	cell division cycle 42	AF205635	rc_AA925473 UI-R-A1-ep-a-02-Q-UJ.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-ep-a-02-Q-UJ /clone_end=3 /gb=AA925473 /gi=3072609 /ug=Rn.8112 /len=519	
AA925506	6319	P43425	6320	BC014466	O60262	87.25	Guanine nucleotide binding protein (G protein), gamma 7 subunit		rc_AA925508 UI-R-A1-ep-d-03-Q-UJ.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-ep-d-03-Q-UJ /clone_end=3 /gb=AA925508 /gi=3072642 /ug=Rn.11335 /len=415	
AA925752	6323	Q07969	6324	BC008406	P16671	84.46	CD36 antigen	NM_031561	rc_AA925752 UI-R-A1-ep-f-07-Q-UJ.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-ep-f-07-Q-UJ /clone_end=3 /gb=AA925752 /gi=3072888 /ug=Rn.3780 /len=484	Platelet glycoprotein IV (GPIV) (GPIIB) (CD36 antigen) (PAS IV) (PAS-4 protein) (Fatty acid transport protein) (Fatty acid translocase) (Adipocyte membrane protein).

Table 2.

AA9257 62	6327	P30009	6328	AU141403	6329	P50458	6330	97.14	Myristoylated alanine-rich protein kinase C substrate	NM_01252 0	rc_AA925762 UI-R-A1-ep-g-08-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- A1-ep-g-08-O-UI /clone_end=3 /gb=AA925762 /gi=3072898 /ug=Rn.9560 /len=384	Myristoylated alanine-rich C- kinase substrate (MARCKS).
AA9257 62	6331	P30009	6332	AU141403	6333	P50458	6334	97.14	Myristoylated alanine-rich protein kinase C substrate		rc_AA925762 UI-R-A1-ep-g-08-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- A1-ep-g-08-O-UI /clone_end=3 /gb=AA925762 /gi=3072898 /ug=Rn.9560 /len=384	Myristoylated alanine-rich C- kinase substrate (MARCKS).
AA9261 37	6335	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		rc_AA926137 UI-R-A1-ep-g-04-O-UI.s1 UI-R- A1 Rattus norvegicus cDNA clone UI-R-A1-ep- g-04-O-UI 3' similar to gi 2317645 dbj D55636 D55636 Homo sapient mRNA for smallest subunit of ubiquinol-cytochrome c reductase, complete cds, mRNA sequence [Rattus norv	
AA9261 49	6336	P04762	6337	X04076	6338	P04040	6339	88.48	Catalase		rc_AA926149 UI-R-A1-ep-h-04-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- A1-ep-h-04-O-UI /clone_end=3 /gb=AA926149 /gi=3073285 /ug=Rn.3001 /len=449	Peroxisomal.  Catalase (EC 1.11.1.6).
AA9282 42	6340	P18814	6341	BC008461	6342	O43493	6343	82.29	Rat mRNA for trans-Golgi network integral membrane protein TGN38		rc_AA928242 UI-R-A1-ep-d-09-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- A1-ep-d-09-O-UI /clone_end=3 /gb=AA928242 /gi=3073378 /ug=Rn.11349 /len=384	TRANS- GOLGI NETWORK.  Trans-golgi network integral membrane protein TGN38 precursor.
AA9331 58	6344	NP_067 312	6345	XM_04239 5		XP_042 395			Mus musculus superkiller virilicidic activity 2-like	NM_02133 7	rc_AA933158 UI-R-E0-bp-g-09-O-UI.s2 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-bp-g-09-O-UI /clone_end=3 /gb=AA933158 /gi=3087512 /ug=Rn.7122 /len=383	

Table 2.

AA9435 55	6346	P50745	6347	NM_0054 75	6348	Q9UQQ 2	6349	71	Linker of T- cell receptor pathways (Lnk)	NM_03162 1	rc_AA943555 EST199054 Rattus norvegicus cDNA, 3' end /clone=RBRA144 /clone_end=3 /gb=AA943555 /gi=3103471 /ug=Rn.11228 /len=435	Lymphocyte specific adapter protein Lnk (Signal transduction proteinLnk) (Lymphocyte adapter protein).
AA9436 77	6350	g17633 06		AK054981	6351	g243200 0	6352	88.82	Rattus norvegicus Munc13-3 mRNA, complete cds	rc_AA943677 EST199176 Rattus norvegicus cDNA, 3' end /clone=RBRA148 /clone_end=3 /gb=AA943677 /gi=3103593 /ug=Rn.11278 /len=520		
AA9441 77	6353	P07155	6354	AV701053	6355	P09429	6356	100	High mobility group 1 (Hmg1)	rc_AA944177 EST199676 Rattus norvegicus cDNA, 3' end /clone=REMAD31 /clone_end=3 /gb=AA944177 /gi=3104083 /ug=Rn.4121 /len=598	"NUCLEAR AND ALSO CYTOPLAS MIC, ASSOCIATE D WITH THE PLASMA MEMBRANE OF FILIPODIA IN PROCESS- GROWING CELLS, AND ALSO DEPOSITED INTO THE SUBSTRATE ATTACHED MATERIAL."	
AA9443 24	6357	P26438	6358	M57763	6359	P26438	6360	84.88	ADP- ribosylation factor 6	NM_02415 2	rc_AA944324 EST199823 Rattus norvegicus cDNA, 3' end /clone=REMAF41 /clone_end=3 /gb=AA944324 /gi=3104240 /ug=Rn.6983 /len=559	ADP- ribosylation factor 6.

Table 2.

AA9443 97	6361	NP_034 610	6362	BE786120	6363	CAA302 55	6364	98.85	Mus musculus heat shock protein, 86 kDa 1 (Hsp86- 1), mRNA	NM_01048 0	rc_AA944397 EST199896 Rattus norvegicus cDNA, 3' end /clone=REMAG54 /clone_end=3 /gb=AA944397 /gl=3104313 /ug=Rn.5916 /len=542			
AA9443 97	6365	NP_034 610	6366	BE786120	6367	CAA302 55	6368	98.85	Mus musculus heat shock protein, 86 kDa 1 (Hsp86- 1), mRNA	NM_01048 0	rc_AA944397 EST199896 Rattus norvegicus cDNA, 3' end /clone=REMAG54 /clone_end=3 /gb=AA944397 /gl=3104313 /ug=Rn.5916 /len=542			
AA9450 54	6369	P00173	6370	XM_00881 7		1803548 A		88	Cytochrome b5		rc_AA945054 EST200553 Rattus norvegicus cDNA, 3' end /clone=RLIAF82 /clone_end=3 /gb=AA945054 /ug=Rn.1055 /len=565	MICROSOM AL MEMBRANE. BOUND TO THE CYTOPLAS MIC SIDE OF THE ENDOPLAS MIC RETICULUM	Cytochrome b5.	
AA9450 54	6371	P00173	6372	XM_04847 3		XP_048 473		88	Cytochrome b5	NM_02224 5	rc_AA945054 EST200553 Rattus norvegicus cDNA, 3' end /clone=RLIAF82 /clone_end=3 /gb=AA945054 /ug=Rn.1055 /len=565	MICROSOM AL MEMBRANE. BOUND TO THE CYTOPLAS MIC SIDE OF THE ENDOPLAS MIC RETICULUM	Cytochrome b5.	

Table 2.

AA9455 83	6373	O70351	6374	BC008708	6375	Q99714	6376	87.5	Hydroxyacyl-Coenzyme A dehydrogenase, type II	rc_AA945583 EST201082 Rattus norvegicus cDNA, 3' end /clone=RLJAP30 /clone_end=3 /gb=AA945583 /ug=Rn.2700 /len=537	Mitochondrial	3-hydroxyacyl-CoA dehydrogenase type II (EC 1.1.1.35) (Type II HADH)(Endoplasmic reticulum-associated amyloid beta-peptide binding protein).
AA9455 83	6377	O70351	6378	BC008708	6379	Q99714	6380	87.5	Hydroxyacyl-Coenzyme A dehydrogenase, type II	rc_AA945583 EST201082 Rattus norvegicus cDNA, 3' end /clone=RLJAP30 /clone_end=3 /gb=AA945583 /ug=Rn.2700 /len=537	Mitochondrial	3-hydroxyacyl-CoA dehydrogenase type II (EC 1.1.1.35) (Type II HADH)(Endoplasmic reticulum-associated amyloid beta-peptide binding protein).
AA9457 04	6381	BAA95672	6382	XM_031259		XP_031259			Heat shock protein 40	rc_AA945704 EST201203 Rattus norvegicus cDNA, 3' end /clone=RLJAS15 /clone_end=3 /gb=AA945704 /ug=Rn.7896 /len=520		
AA9460 40	6383	P56391	6384	AL528775	6385	XP_049224		94.39	Cytochrome c oxidase subunit VIb	rc_AA946040 EST201539 Rattus norvegicus cDNA, 3' end /clone=RLUBA46 /clone_end=3 /gb=AA946040 /ug=Rn.6009 /len=519		
AA9460 40	6386	P56391	6387	AL528775	6388	XP_049224		94.39	Cytochrome c oxidase subunit VIb	rc_AA946040 EST201539 Rattus norvegicus cDNA, 3' end /clone=RLUBA46 /clone_end=3 /gb=AA946040 /ug=Rn.6009 /len=519		



Table 2.

AA9463 66	6399	Q07869	6390	BC008406	6391	P16671	6392	84.46	CD36 antigen	NM_031561	rc_AA946368 EST201887 Rattus norvegicus cDNA, 3' end /clone=RLJBH29 /clone_end=3 /gb=AA946368 /gi=3108284 /ug=Rn.3790 /len=750	Integral membrane protein.	Platelet glycoprotein IV (GPIV) (GPIIIB) (CD36 antigen) (PAS IV) (PAS-4 protein) (Fatty acid transport protein) (Fatty acid translocase) (Adipocyte membrane protein).
AA9464 39	6393	P02304	6394	NM_003539	6395	P02304	6396	88.28	Rat H4 gene for somatic histone H4		rc_AA946439 EST201938 Rattus norvegicus cDNA, 3' end /clone=ROVAR17 /clone_end=3 /gb=AA946439 /ug=Rn.10485 /len=663		
AA9465 32	6397	P16970	6398	BC009712	6399	P28288	6400	93.07	ATP-binding cassette, subfamily D (ALD), member 3		rc_AA946532 EST202031 Rattus norvegicus cDNA, 3' end /clone=RSPA258 /clone_end=3 /gb=AA946532 /gi=3108448 /ug=Rn.7024 /len=535	Integral membrane protein. Peroxisomal.	"ATP-binding cassette, subfamily D, member 3 (70 kDa peroxisomal membrane protein) (PMP70)."
AA9551 67	6401	P30009	6402	AU141403	6403	XP_039759		97.14	Mus musculus myristoylated alanine rich protein kinase C substrate	NM_008538	rc_AA955167 UI-R-A1-du-e-08-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A1-du-e-08-O-UI /clone_end=3 /gb=AA955167 /ug=Rn.9580 /len=443		Myristoylated alanine-rich C-kinase substrate (MARCKS).

Table 2.

AA955477	6404	CAA54183	6405	U09578	6406	AAH10407	6407	92.08	ESTs, Moderately similar to S78100 MAPK activated protein Kinase (EC 2.7.1.1.) 2 mouse (fragment) [M.musculus]		rc_AA955477 UI-R-A1-ex-f01-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-ex-f01-0-UI /clone_end=3 /gb=AA955477 /ug=Rn.9789 /len=394			
AA955808	6408	Q64620	6409	BC006990	6410	O00743	6411	91.08	R.norvegicus mRNA for protein phosphatase V		rc_AA955808 UI-R-E1-fg-h-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E1-fg-h-05-Q-UI /clone_end=3 /gb=AA955808 /ug=Rn.9573 /len=538	Cytoplasmic	Serine/threonine protein phosphatase 6 (EC 3.1.3.16) (PP6) (Protein phosphatase V) (PP-V).	
AA955808	6412	Q64620	6413	BC006990	6414	O00743	6415	91.08	R.norvegicus mRNA for protein phosphatase V		rc_AA955808 UI-R-E1-fg-h-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E1-fg-h-05-Q-UI /clone_end=3 /gb=AA955808 /ug=Rn.9573 /len=538	Cytoplasmic	Serine/threonine protein phosphatase 6 (EC 3.1.3.16) (PP6) (Protein phosphatase V) (PP-V).	
AA957003	6416	P50115	6417	X06234	6418	P05109	6419	62	Rattus norvegicus intercellular calcium-binding protein (MRP8) mRNA, complete cds	L18891	rc_AA957003 UI-R-E1-fq-d-09-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E1-fq-d-09-Q-UI /clone_end=3 /gb=AA957003 /ug=Rn.9158 /len=369		Calgranulin A (Migration Inhibitory factor-related protein 8) (MRP-8)(p8).	

Table 2.

AA9576 40	6420	P06766	6421	M13140	6422	P06746	6423	89.55	DNA polymerase beta (Polb)	NM_01714 1	rc_AA957640 UI-R-E1-gf-b-02-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E1-gf-b- 02-Q-UI /clone_end=3 /gb=AA957640 /ug=Rn.9348 /len=360	DNA polymerase beta (EC 2.7.7.7).
AA9579 17	6424	P30823	6425	X59155	6426	P30825	6427	86.92	Solute carrier family 7 member A1 (amino acid transporter cationic 1)	rc_AA957917 UI-R-E1-N-o-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E1-N-o- 05-Q-UI /clone_end=3 /gb=AA957917 /ug=Rn.9439 /len=402	High-affinity cationic amino acid transporter- 1 (CAT-1) (CAT1) (System Y+ basic amino acid transporter) (Ecotropic retroviral leukemia recepto r) (ERR) (Ecotropic retrovirus receptor).	

Table 2.

AA9579 17	6428	P30823	6429	X59155	6430	P30825	6431	86.92	Solute carrier family 7 member A1 (amino acid transporter cationic 1)	NM_013111 1	rc_AA957917 UI-R-E1-fv-c-05-O-UJ.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E1-fv-c- 05-O-UJ /clone_end=3' /gb=AA957917 /ug=Rn.9439 /len=402	Integral membrane protein.	High-affinity cationic amino acid transporter- 1 (CAT-1) (CAT1) (System Y+ basic amino acid transporter) (Ecotropic retroviral leukemia-recepto r) (ERR) (Ecotropic retrovirus receptor).
AA9579 61	6432	P18395	6433	AY049788	6434	O75534	6435	94.37	Rat unr mRNA for unr protein with unknown function		rc_AA957961 UI-R-E1-fz-g-08-O-UJ.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E1-fz-g- 08-O-UJ /clone_end=3' /gb=AA957961 /ug=Rn.3562 /len=462	Cytoplasmic.	UNR protein.
AA9634 47	6436	NP_113 794	6437	BI823498	6438	NP_000 305	6439	95.77	phosphatase and tensin homolog	NM_031608 6	rc_AA963447 UI-R-E1-gl-e-06-O-UJ.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E1-gl-e- 06-O-UJ /clone_end=3' /gb=AA963447 /ug=Rn.22158 /len=456		
AA9636 82	6440	P87570	6441	AL136710	6442	A55575	6443	93.5	Rattus norvegicus 190 kDa ankyrin isoform mRNA, complete cds		rc_AA963682 UI-R-E1-gg-h-11-O-UJ.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E1-gg-h-11-O-UJ /clone_end=3' /gb=AA963682 /ug=Rn.236 /len=376		

Table 2.

AA9636 82	6444	P97570	6445	AL136710	6446	A55575	6447	93.5	Rattus norvegicus 190 kDa ankyrin isoform mRNA, complete cds		rc_AA963682 UI-R-E1-gg-h-11-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E1-gg-h-11-Q-UI /clone_end=3 /gb=AA963682 /ug=Rn.236 /len=376				
AA9638 57	6448	P13265	6449	L47125	6450	P51654	6451	89.19	Glypican 3		rc_AA963857 UI-R-E1-gk-a-07-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E1-gk-a-07-Q-UI /clone_end=3 /gb=AA963857 /ug=Rn.9717 /len=408	Attached to the membrane by a GPI- anchor.	Glypican-3 precursor (intestinal protein OCI-5).		
AA9651 54	6452	P42655	6453	BC000178	6454	P42655	6455	99.41	Tyrosine 3- monooxygena se/tryptophan 5- monooxygena se activation/prote in, epsilon polypeptide	NM_03160 3	rc_AA965154 UI-R-C0-hc-h-09-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- C0-hc-h-09-Q-UI /clone_end=3 /gb=AA965154 /ug=Rn.4225 /len=437	Cytoplasmic.	14-3-3 protein epsilon (Mitochondrial import stimulation factor Leubunit) (Protein Kinase C inhibitor protein-1) (KCIP- 1) (14-3-3E).		
AA9976 14	6456	Q64654	6457	BG567904	6458	Q16850	6459	93.38	Cytochrom P450 Lanosterol 14 alpha- demethylase		rc_AA997614 UI-R-C0-hy-g-09-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- C0-hy-g-09-Q-UI /clone_end=3 /gb=AA997614 /ug=Rn.6150 /len=348	Microsomal.	Cytochrome P450 51 (EC 1.14.14.-) (CYPL1) (P450L1) (Sterol 14- alpha demethylase) (Lanosterol 14-alpha demethylase) (LDM) (P450- 14DM).		

Table 2.

AA9978 06	6460	P15129	6461	X16699	6462	P13584	6463	87.3	Cytochrome P450, subfamily IVB, polypeptide 1	NM_01699 9	tc_AA997806 UI-R-CO-hv-e-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- CO-hv-e-08-Q-UI /clone_end=3 /gb=AA997806 /ug=Rn.5721 /len=349	Membrane- bound. Endoplasmic reticulum.	Cytochrome P450 4B1 (EC 1.14.14.1) (CYP1VB1) (P450-isozyme 5).
AA9978 86	6464	Q64680	6465	M33388	6466	AAA535 00	6467	78	Rattus norvegicus mRNA for CYP2D4, complete cds	AB008425	tc_AA997888 UI-R-CO-hu-h-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- CO-hu-h-10-Q-UI /clone_end=3 /gb=AA997888 /ug=Rn.11043 /len=525	Membrane- bound. Endoplasmic reticulum.	Cytochrome P450 2D18 (EC 1.14.14.1) (CYP1D18) (P450 2D-29/2D- 35).
AI0076 14	6468	No Rat Protein Found.		No human homolog found.	No Human Protein Found.	XP_001 691		91	EST (not recognized)		tc_AI007614 EST202065 Rattus norvegicus cDNA, 3 end /clone=RBRA522 /clone_end=3 /gb=AI007614 /ug=Rn.221 /len=522		
AI0078 24	6469	CAA49 904	6470	XM_00169 1		XP_001 691		91	R. norvegicus mRNA for Mss4 protein	X70496	tc_AI007824 EST202275 Rattus norvegicus cDNA, 3 end /clone=RBRAV39 /clone_end=3 /gb=AI007824 /ug=Rn.11302 /len=569		
AI0078 24	6471	CAA49 904	6472	XM_00169 1		XP_001 691		91	R. norvegicus mRNA for Mss4 protein	X70496	tc_AI007824 EST202275 Rattus norvegicus cDNA, 3 end /clone=RBRAV39 /clone_end=3 /gb=AI007824 /ug=Rn.11302 /len=569		
AI0078 35	6473	O08875	6474	AB002367	6475	O15075	6476	88	Rattus norvegicus protein serine/threoni ne kinase CPG16 (cpg16)	U78857	tc_AI007835 EST202286 Rattus norvegicus cDNA, 3 end /clone=RBRAV51 /clone_end=3 /gb=AI007835 /ug=Rn.11405 /len=540		Serine/threonine protein kinase DCAMKL1 (EC 2.7.1.-) (Doublecortin- like and CAM kinase-like 1) (Calcium/calmo dulin-dependent protein kinase type 1-like CPG16).

Table 2.

AI0081 31	6477	P17708	6478	BC000171	6478	P17707	6480	97	S- adenosylmethi online decarboxylase	M34464	rc_AI008131 EST202582 Rattus norvegicus cDNA, 3' end /clone=REMAT31 /clone_end=3 /gb=AI008131 /ug=Rn.1809 /len=498	S- adenosylmethio nine decarboxylase (EC 4.1.1.50) (AdoMetDC)(Sa mDC) [Contains: S- adenosylmethio nine decarboxylase alpha chain; S- adenosylmethio nine decarboxylase beta chain].
AI0081 31	6481	P17708	6482	BC000171	6483	P17707	6484	97	S- adenosylmethi online decarboxylase	M34464	rc_AI008131 EST202582 Rattus norvegicus cDNA, 3' end /clone=REMAT31 /clone_end=3 /gb=AI008131 /ug=Rn.1809 /len=486	S- adenosylmethio nine decarboxylase (EC 4.1.1.50) (AdoMetDC)(Sa mDC) [Contains: S- adenosylmethio nine decarboxylase alpha chain; S- adenosylmethio nine decarboxylase beta chain].
AI0084 23	6485	AAB939 32	6486	AF077038	6487	AAD277 71	6488	91	Rattus norvegicus unc-50 related protein	U96538	rc_AI008423 EST202874 Rattus norvegicus cDNA, 3' end /clone=REMAX14 /clone_end=3 /gb=AI008423 /ug=Rn.3446 /len=512	S- adenosylmethio nine decarboxylase (EC 4.1.1.50) (AdoMetDC)(Sa mDC) [Contains: S- adenosylmethio nine decarboxylase alpha chain; S- adenosylmethio nine decarboxylase beta chain].

Table 2.

AI008638	6489	P70490	6490	U58516	6491	Q08431	6492	85.71	O-acetyltransferase see Milk fat globule membrane protein	NM_019275	rc_AI008638 EST203089 Rattus norvegicus cDNA, 3' end /clone=REMBB08 /clone_end=3 /gb=AI008638 /ug=Rn.3742 /len=807	PERIPHERAL MEMBRANE PROTEIN.	Lactadherin precursor (Milk fat globule-EGF factor 8) (MFG-E8) (O-acetyl GD3 ganglioside synthase) (AGS) (MFGM).
AI008639	6493	O70437	6494	N74105	6495	XP_030100	6499	90.38	Rattus norvegicus MAD homolog 4	NM_019275	rc_AI008639 EST203090 Rattus norvegicus cDNA, 3' end /clone=REMBB09 /clone_end=3 /gb=AI008639 /ug=Rn.9774 /len=496	IN THE CYTOPLASM IN THE ABSENCE OF LIGAND; MIGRATION TO THE NUCLEUS WHEN COMPLEXED WITH R-SMAD.	Mothers against decapentaplegic homolog 4 (SMAD 4) (Mothers against DPP homolog 4) (Smad4).
AI008636	6496	P62925	6497	Z17240	6498	P26583	6499	91.27	high mobility group protein 2	NM_017187	rc_AI008636 EST203287 Rattus norvegicus cDNA, 3' end /clone=REMBE03 /clone_end=3 /gb=AI008636 /ug=Rn.2874 /len=460	Nuclear.	High mobility group protein 2 (HMG-2).
AI008652	6500	P20001	6501	AA076035	6502	P04720	6503	98.36	Eukaryotic translation elongation factor 1 alpha 2	NM_019275	rc_AI008652 EST203303 Rattus norvegicus cDNA, 3' end /clone=REMBE33 /clone_end=3 /gb=AI008652 /ug=Rn.965 /len=531	ANCHORED AT THE ENDOPLASMIC RETICULUM MEMBRANE BY PHOSPHATIDYLINOSITOL 4,5 BIPHOSPHATE (PIP2) AND ETHANOLAMINE BRIDGING.	Elongation factor 1-alpha 1 (EF-1-alpha-1) (Elongation factor 1 A-1) (eEF1A-1) (Elongation factor Tu) (EF-Tu).



Table 2.

AI0088 88	6504	P01041	6505	AW45114 5	6506	P04080	6507	89.36	Cystatin beta		rc_AI008888 EST203339 Rattus norvegicus cDNA, 3' end /clone=REMBE86 /clone_end=3 /gb=AI008888 /ug=Rn.1233 /len=528	Cytoplasmic.	Cystatin B (Liver thiol proteinase inhibitor) (Stefin B) (Cystatinbeta).
AI0088 88	6508	P01041	6509	AW45114 6	6510	P04080	6511	89.36	Cystatin beta		rc_AI008888 EST203339 Rattus norvegicus cDNA, 3' end /clone=REMBE86 /clone_end=3 /gb=AI008888 /ug=Rn.1233 /len=528	Cytoplasmic.	Cystatin B (Liver thiol proteinase inhibitor) (Stefin B) (Cystatinbeta).
AI0091 41	6512	No Rat Protein Found.		AW97835 6	6513	No Human Protein Found.		84.4	M.musculus mRNA for M31 protein, exon 9	X95399	rc_AI009141 EST203592 Rattus norvegicus cDNA, 3' end /clone=REMBJ39 /clone_end=3 /gb=AI009141 /ug=Rn.221 /len=608		
AI0091 47	6514	No Rat Protein Found.		AJ249980	6515	CAB865 37	6516	86	EST (human hypothetical protein)		rc_AI009147 EST203598 Rattus norvegicus cDNA, 3' end /clone=REMBJ52 /clone_end=3 /gb=AI009147 /ug=Rn.221 /len=429		
AI0092 68	6517	P15791	6518	AF071569	6519	Q13557	6520	92.9	Ca++/calmodu lin-dependent protein kinase II, delta subunit		rc_AI009268 EST203719 Rattus norvegicus cDNA, 3' end /clone=RHEAB12 /clone_end=3 /gb=AI009268 /ug=Rn.122 /len=382		Calcium/calmod ulin-dependent protein kinase type II delta chain (EC2.7.1.123) (CaM-kinase II delta chain) (CaM kinase II delta subunit)(CaMK- II delta subunit).
AI0093 90	6521	AAH02 163	6522	AF020352	6523	O43920	6524	85.15	Mus musculus, Similar to NADH dehydrogenas e	BC002163	rc_AI009390 EST203841 Rattus norvegicus cDNA, 3' end /clone=RHEBJ41 /clone_end=3 /gb=AI009390 /ug=Rn.3392 /len=472		

Table 2.

AI009405	6525	P16473	6526	BF196063	6527	XP_038124	90.85	Insulin-like growth factor-binding protein (IGF-BP3)	NM_012588	rc_AI009405 EST203858 Rattus norvegicus cDNA, 3' end /clone=RHEBJ58 /clone_end=3 /gb=AI009405 /ug=Rn.1710 /len=501	Secreted.	Insulin-like growth factor binding protein 3 precursor (IGFBP-3)(BP-3) (IGF-binding protein 3).
AI009801	6528	P30904	6529	NM_002415	6530	P14174	90	Rattus norvegicus macrophage migration inhibitory factor	NM_031051	rc_AI009801 EST204252 Rattus norvegicus cDNA, 3' end /clone=RLUBO63 /clone_end=3 /gb=AI009801 /ug=Rn.2661 /len=635		Macrophage migration inhibitory factor (MIF) (Phenylpyruvate tautomerase) (Glutathione-binding 13 kDa protein).
AI010293	6532	B39086		BC003133	6533	P46379	100	Rattus norvegicus mRNA for BAT3, complete cds		rc_AI010293 EST204744 Rattus norvegicus cDNA, 3' end /clone=RLUBW57 /clone_end=3 /gb=AI010293 /ug=Rn.221 /len=546		
AI010293	6535	BAA76607	6536	BC003133	6537	P46379	100	Rattus norvegicus mRNA for BAT3, complete cds	AB018791	rc_AI010293 EST204744 Rattus norvegicus cDNA, 3' end /clone=RLUBW57 /clone_end=3 /gb=AI010293 /ug=Rn.221 /len=546		
AI010453	6539	P17475	6540	XM_028358	6541	XP_028358		Alpha-1-protease inhibitor	NM_022519	rc_AI010453 EST204904 Rattus norvegicus cDNA, 3' end /clone=RLUBZ84 /clone_end=3 /gb=AI010453 /ug=Rn.1419 /len=612	Extracellular.	Alpha-1-antitrypsin precursor (Alpha-1-antitrypsin) (Alpha-1-protease inhibitor).

Table 2.

AI0104 80	6543	P04636	6544	NM_0059 18	6545	P40926	6546	89	Rattus norvegicus malate dehydrogenase e mitochondrial	NM_03115 1	rc_AI010480 EST204931 Rattus norvegicus cDNA, 3 end /clone=RLUBZ98 /clone_end=3 /gb=AI010480 /ug=Rn.1011 /len=590	Mitochondrial matrix.	"Malate dehydrogenase, mitochondrial precursor (EC 1.1.1.37)."
AI0104 80	6547	P04636	6548	NM_0059 18	6549	P40926	6550	89	Rattus norvegicus malate dehydrogenase e mitochondrial	NM_03115 1	rc_AI010480 EST204931 Rattus norvegicus cDNA, 3 end /clone=RLUBZ98 /clone_end=3 /gb=AI010480 /ug=Rn.1011 /len=590	Mitochondrial matrix.	"Malate dehydrogenase, mitochondrial precursor (EC 1.1.1.37)."
AI0105 80	6551	No Rat Protein Found.		No human homolog found.	No Human Protein Found.				Mus musculus DNA repair protein (XRCC1) gene	L34078	rc_AI010580 EST205031 Rattus norvegicus cDNA, 3 end /clone=RMUAO88 /clone_end=3 /gb=AI010580 /ug=Rn.13632 /len=377		
AI0105 81	6552	P11030	6553	BC000920	6554	NZHU	6555	87.38	Diazepam binding inhibitor (GABA receptor modulator, acyl- Coenzyme A binding protein)		rc_AI010581 EST205032 Rattus norvegicus cDNA, 3 end /clone=RMUAO89 /clone_end=3 /gb=AI010581 /ug=Rn.3285 /len=543		Acyl-CoA- binding protein (ACBP) (Diazepam binding inhibitor) (DBI)(Endozepl ne) (EP).
AI0105 81	6556	P11030	6557	BC000920	6558	NZHU	6559	87.38	Diazepam binding inhibitor (GABA receptor modulator, acyl- Coenzyme A binding protein)	NM_03185 3	rc_AI010581 EST205032 Rattus norvegicus cDNA, 3 end /clone=RMUAO89 /clone_end=3 /gb=AI010581 /ug=Rn.3285 /len=543		Acyl-CoA- binding protein (ACBP) (Diazepam binding inhibitor) (DBI)(Endozepl ne) (EP).

Table 2.

AI0114 98	6560	BAA241 06	6561	BC018953	6562	XP_008 253	6563	95.67	BAF60b	AB003505	rc_AI011498 EST205948 Rattus norvegicus cDNA, 3' end /clone=ROAV73 /clone_end=3 /gb=AI011498 /ug=Rn.3053 /len=644		
AI0115 56	6564	No Rat Protein Found.		X03205	6565	No Human Protein Found.	6566		18S rRNA gene	M11188	rc_AI011556 EST206007 Rattus norvegicus cDNA, 3' end /clone=ROAVW63 /clone_end=3 /gb=AI011556 /ug=Rn.17740 /len=405		
AI0119 98	6566	P87554	6567	NM_0123 28	6568	Q8UBS3	6569	90.25	microvascular endothelial differentiation gene 1	NM_01269 9	rc_AI011988 EST208449 Rattus norvegicus cDNA, 3' end /clone=RPLAR43 /clone_end=3 /gb=AI011988 /ug=Rn.11286 /len=495	Cytoplasmic. Stress Induces its translocation to the nucleus.	DnaJ homolog subfamily B member 9 (Microvascular endothelial differ- entiation gene-1 protein) (Mdg- 1).
AI0120 30	6570	P08494	6571	NM_0009 00	6572	P08493	6573	69	Matrix Gla protein (Mgp)	NM_01286 2	rc_AI012030 EST206481 Rattus norvegicus cDNA, 3' end /clone=RPLAR80 /clone_end=3 /gb=AI012030 /ug=Rn.2378 /len=549	Extracellular.	Matrix Gla- protein precursor (MGP).
AI0121 83	6574	O09018	6575	BC014664	6576	P24468	6577	95.03	ovalbumin upstream promoter beta nuclear receptor rCOUPb	AF003944	rc_AI012183 EST206634 Rattus norvegicus cDNA, 3' end /clone=RPLAT70 /clone_end=3 /gb=AI012183 /ug=Rn.17815 /len=547	Nuclear.	COUP transcription factor 2 (COUP- TF2) (COUP-TF II) (Apolipoprotein AI regulatory protein-1) (ARP- 1) (Ovalbumin upstream promoter beta nuclear receptor) (COUPB).

Table 2.

AI012275	6578	g31010	AK026285	6579	g329418	85.83	Rattus norvegicus developmentally regulated protein mRNA, complete cds	rc_AI012275 EST208726 Rattus norvegicus cDNA, 3' end /clone=RPLAU85 /clone_end=3 /gb=AI012275 /ug=Rn.4089 /len=686	
AI012589	6580	P04906	U30897	6582	P09211	85	Glutathione S-transferase, pi 2	rc_AI012589 EST207040 Rattus norvegicus cDNA, 3' end /clone=RPLAZ28 /clone_end=3 /gb=AI012589 /ug=Rn.5985 /len=660	Glutathione S-transferase P (EC 2.5.1.18) (GST 7-7) (Chain 7)(GST class-pi).
AI012589	6584	P04906	U30897	6586	P09211	86	Glutathione S-transferase, pi 2	rc_AI012589 EST207040 Rattus norvegicus cDNA, 3' end /clone=RPLAZ28 /clone_end=3 /gb=AI012589 /ug=Rn.5985 /len=660	Glutathione S-transferase P (EC 2.5.1.18) (GST 7-7) (Chain 7)(GST class-pi).
AI012604	6588	Q07205	NM_001969	6590	P55010	80	eukaryotic initiation factor 5 (eIF-5)	rc_AI012604 EST207055 Rattus norvegicus cDNA, 3' end /clone=RPLAZ45 /clone_end=3 /gb=AI012604 /ug=Rn.3506 /len=614	Eukaryotic translation initiation factor 5 (eIF-5).
AI013194	6592	Q07205	NM_001969	6594	P55010	80	Eukaryotic initiation factor 5 (eIF-5)	rc_AI013194 EST207869 Rattus norvegicus cDNA, 3' end /clone=RSPBH80 /clone_end=3 /gb=AI013194 /ug=Rn.3506 /len=484	Eukaryotic translation initiation factor 5 (eIF-5).
AI013297	6596	NP_035017	BC005270	6598	O43181	92.86	Mus musculus NADH dehydrogenase (ubiquinone) Fe-S protein 4 (18 kDa) (Ndufr4)	rc_AI013297 EST207972 Rattus norvegicus cDNA, 3' end /clone=RSPBJ19 /clone_end=3 /gb=AI013297 /ug=Rn.6543 /len=487	Eukaryotic translation initiation factor 5 (eIF-5).

Table 2.

AI0132 97	6600	NP_035 017	6601	BC005270	6602	O43181	6603	92.86	Mus musculus NADH dehydrogenas e (ubiquinone) Fe-S protein 4 (18 kDa) (Ndufs4)	NM_01088 7	rc_AI013297 EST207872 Rattus norvegicus cDNA, 3' end /clone=RSPBJ19 /clone_end=3 /gb=AI013297 /ug=Rn.6543 /len=487		
AI0132 97	6604	NP_035 017	6605	BC005270	6606	O43181	6607	92.86	Mus musculus NADH dehydrogenas e (ubiquinone) Fe-S protein 4 (18 kDa) (Ndufs4)	NM_01088 7	rc_AI013297 EST207872 Rattus norvegicus cDNA, 3' end /clone=RSPBJ19 /clone_end=3 /gb=AI013297 /ug=Rn.6543 /len=487		
AI0132 97	6608	NP_035 017	6609	BC005270	6610	O43181	6611	92.86	Mus musculus NADH dehydrogenas e (ubiquinone) Fe-S protein 4 (18 kDa) (Ndufs4)	NM_01088 7	rc_AI013297 EST207872 Rattus norvegicus cDNA, 3' end /clone=RSPBJ19 /clone_end=3 /gb=AI013297 /ug=Rn.6543 /len=487		
AI0134 72	6612	CAA69 106	6613	NM_0037 13	6614	NP_003 704	6615	91	R. norvegicus mRNA for ER transmembran e protein	Y07783	rc_AI013472 EST208147 Rattus norvegicus cDNA, 3' end /clone=RSPBL95 /clone_end=3 /gb=AI013472 /ug=Rn.7178 /len=528		
AI0140 87	6616	P02383	6617	AW02250 6	6618	XP_015 318		89.08	ribosomal protein S26	X02414	rc_AI014087 EST207642 Rattus norvegicus cDNA, 3' end /clone=RSPBE69 /clone_end=3 /gb=AI014087 /ug=Rn.1059 /len=517		40S ribosomal protein S26.
AI0141 35	6619	No Rat Protein Found.		L22009	6620	P31943	6621	100	CDK103 mRNA	Y17322	rc_AI014135 EST207890 Rattus norvegicus cDNA, 3' end /clone=RSPBF48 /clone_end=3 /gb=AI014135 /ug=Rn.4229 /len=410		

Table 2.

AI014135	6622	No Rat Protein Found.	L22009	6623	P31943	6624	100	Rattus norvegicus CDK103 mRNA	Y17322	rc_AI014135 EST207690 Rattus norvegicus cDNA, 3' end /clone=RSPBF48 /clone_end=3 /gb=AI014135 /ug=Rn.4229 /len=410		
AI014135	6625	No Rat Protein Found.	L22009	6626	P31943	6627	100	CDK103 mRNA	Y17322	rc_AI014135 EST207690 Rattus norvegicus cDNA, 3' end /clone=RSPBF48 /clone_end=3 /gb=AI014135 /ug=Rn.4229 /len=410		
AI014135	6628	No Rat Protein Found.	L22009	6629	P31943	6630	100	Rattus norvegicus CDK103 mRNA	Y17322	rc_AI014135 EST207690 Rattus norvegicus cDNA, 3' end /clone=RSPBF48 /clone_end=3 /gb=AI014135 /ug=Rn.4229 /len=410		
AI014163	6631	P20695	6632	6633	O00458	6634	93.69	Interferon-related developmental regulator 1	NM_019242	rc_AI014163 EST207718 Rattus norvegicus cDNA, 3' end /clone=RSPBF82 /clone_end=3 /gb=AI014163 /ug=Rn.3723 /len=550	PRESENTS A NGF-DEPENDENT PATTERN OF INTRACELLULAR LOCALIZATION WITH INCREASED AMOUNTS OF NGF AND BESIDES BEING EXPRESSED IN THE CYTOPLASM, IT IS ALSO LOCALIZED IN THE PLASMA MEMBRANE (INNER SIDE) AT	Interferon-related developmental regulator 1 (Nerve growth factor-inducible protein PC4) (IRPR).

Table 2.

AI014189	6635	No Rat Protein Found.	AW601963	6636	No Human Protein Found.	90.78	clone N27	U30789	rc_AI014189 EST207724 Rattus norvegicus cDNA, 3' end /clone=RSPBF88 /clone_end=3 /gb=AI014189 /ug=Rn.2758 /len=553	rc_AI029805 UI-R-CO-jn-b-01-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-CO-jn-b-01-Q-UI /clone_end=3 /gb=AI029805 /ug=Rn.4121 /len=387	"NUCLEAR AND ALSO CYTOPLASMIC, ASSOCIATED WITH THE PLASMA MEMBRANE OF FILIPODIA IN PROCESS-GROWING CELLS, AND ALSO DEPOSITED INTO THE SUBSTRATE ATTACHED MATERIAL."	High mobility group protein 1 (HMG-1) (Amphotericin) (Heparin-binding protein p30).
AI029805	6637	P07155	AV701053	6639	P08429	100	High mobility group 1					



Table 2.

AI029805	6641	P07155	6842	AV701053	6643	P08429	6644	100	High mobility group 1	rc_AI029805 UI-R-CO-jn-b-01-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-CO-jn-b-01-Q-UI /clone_end=3' /gb=AI029805 /ug=Rn.4121 /len=387	"NUCLEAR AND ALSO CYTOPLASMIC, ASSOCIATED WITH THE PLASMA MEMBRANE OF FILIPODIA IN PROCESS-GROWING CELLS, AND ALSO DEPOSITED INTO THE SUBSTRATE ATTACHED MATERIAL."	High mobility group protein 1 (HMG-1) (Amphoterin) (Heparin-binding protein p30).
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Table 2.

AI030089	6645	P41777	6646	XM_005918	XP_005918	42	Rattus norvegicus nucleolar phosphoprotein p130 (Nopp140)	NM_022869	rc_AI030089 UI-R-CO-It-09-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-CO-It-09-0-UI /clone_end=3' /gb=AI030089 /ug=Rn.9517 /len=508	SHUTTLES ON CURVILINEAR TRACKS BETWEEN NUCLEOLUS AND CYTOPLASM. THESE TRACKS EXTEND FROM THE DENSE FIBRILLAR COMPONENT OF THE NUCLEOLUS ACROSS THE NUCLEOLAR SPACE TO A LIMITED NUMBER OF NUCLEAR PORE COMPLEXES.	Nucleolar phosphoprotein p130 (Nucleolar protein) (140 kDa) (Nucleolar phosphoprotein) (Nopp140) (Nucleolar and cytoplasmic body phosphoprotein 1).
AI030175	6647	P27867	6648	L29008	6649 Q00796	82	Sorbitol dehydrogenase		rc_AI030175 UI-R-CO-It-09-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-CO-It-09-0-UI /clone_end=3' /gb=AI030175 /ug=Rn.11334 /len=505		Sorbitol dehydrogenase (EC 1.1.1.14) (L-iditol 2-dehydrogenase)
AI030175	6651	P27867	6652	L29008	6653 Q00796	82	Sorbitol dehydrogenase		rc_AI030175 UI-R-CO-It-09-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-CO-It-09-0-UI /clone_end=3' /gb=AI030175 /ug=Rn.11334 /len=505		Sorbitol dehydrogenase (EC 1.1.1.14) (L-iditol 2-dehydrogenase)

Table 2.

AI030286	6655	P23363	6656	X60201	6657	P23360	6658	92.86	Brain derived neurotrophic factor	NM_012513	rc_AI030286 UI-R-C0-jb-c-02-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C0-jb-c-02-Q-UI /clone_end=3 /gb=AI030286 /ug=Rn.11286 /len=387	Secreted.	Brain-derived neurotrophic factor precursor (BDNF).
AI043631	6659	Q63784	6660	D88674	6661	O14977	6662	95.34	Omithline decarboxylase antizyme inhibitor	NM_022585	rc_AI043631 UI-R-C0-jb-09-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C0-jb-09-Q-UI /clone_end=3 /gb=AI043631 /ug=Rn.6280 /len=631		Omithline decarboxylase antizyme inhibitor.
AI043631	6663	Q63764	6664	D88674	6665	O14977	6666	95.34	Omithline decarboxylase antizyme inhibitor	NM_022585	rc_AI043631 UI-R-C0-jb-09-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C0-jb-09-Q-UI /clone_end=3 /gb=AI043631 /ug=Rn.6280 /len=631		Omithline decarboxylase antizyme inhibitor.
AI044716	6667	P47871	6668	U61849	6669	Q15818	6670	90.86	Rattus norvegicus neuronal pentraxin precursor mRNA, complete cds		rc_AI044716 UI-R-C1-kt-a-09-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C1-kt-a-09-Q-UI /clone_end=3 /gb=AI044716 /ug=Rn.10233 /len=363	SECRETORY VESICLES	Neuronal pentraxin I precursor (NP1) (47 kDa talpoxin-binding protein).
AI044900	6671	P18163	6672	D10040	6673	P33121	6674	85	Acyl CoA synthetase, long chain		rc_AI044900 UI-R-C1-kt-c-05-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C1-kt-c-05-Q-UI /clone_end=3 /gb=AI044900 /ug=Rn.6215 /len=388	"MICROSOMAL" ES, OUTER MITOCHONDRIAL MEMBRANE AND PEROXISOMAL MEMBRANE.	"Long-chain-fatty acid-CoA ligase, liver isozyyme (EC 6.2.1.3)(Long-chain acyl-CoA synthetase 2) (LACS 2)." "

Table 2.

AI044900	6675	P18163	6676	D10040	6677	P33121	6678	85	Acyl CoA synthetase, long chain	BC003446	rc_AI044900 UI-R-C1-kk-c-05-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C1-kk-c-05-Q-UI /clone_end=3' /gb=AI044900 /ug=Rn.6215 /len=388	"MICROSOMAL, OUTER MITOCHONDRIAL MEMBRANE AND PEROXISOMAL MEMBRANE."	"Long-chain-fatty-acid-CoA ligase, liver isozyme (EC 6.2.1.3)(Long-chain acyl-CoA synthetase 2) (LACS 2)."
AI059291	6679	P12368	6680	X14988	6681	P13661	6682	87	Protein kinase, cAMP dependent regulatory, type II alpha		rc_AI059291 UI-R-C1-lb-h-03-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C1-lb-h-03-Q-UI /clone_end=3' /gb=AI059291 /ug=Rn.9742 /len=384		cAMP-dependent protein kinase type II-alpha regulatory chain(Fragment)
AI070108	6683	AAH03446	6684	NM_007070	6685	Q92990	6686	92.13	FKBP-associated protein		rc_AI070108 UI-R-YO-lu-a-09-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-YO-lu-a-09-Q-UI /clone_end=3' /gb=AI070108 /ug=Rn.16863 /len=528		
AI070295	6687	P48317	6688	M60974	6689	P24522	6690	95	DNA-damage-inducible transcript 1		rc_AI070295 UI-R-YO-lt-d-01-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-YO-lt-d-01-Q-UI /clone_end=3' /gb=AI070295 /ug=Rn.10250 /len=645		Growth arrest and DNA-damage-inducible protein GADD45 alpha (DNA-damage inducible transcript 1) (DDIT1).

Table 2.

AI0702 95	6691	P48317	6692	M60974	6693	P24522	6694	95	DNA-damage- Inducible transcript 1	rc_AI070295 UI-R-YO-It-d-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-YO-It-d- 01-Q-UI /clone_end=3 /gb=AI070295 /ug=Rn.10250 /len=545	Growth arrest and DNA- damage- Inducible protein GADD45 alpha (DNA-damage Inducible transcript 1) (DDIT1).
AI0702 95	6695	P48317	6696	M60974	6697	P24522	6698	95	DNA-damage- Inducible transcript 1	rc_AI070295 UI-R-YO-It-d-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-YO-It-d- 01-Q-UI /clone_end=3 /gb=AI070295 /ug=Rn.10250 /len=545	Growth arrest and DNA- damage- Inducible protein GADD45 alpha (DNA-damage Inducible transcript 1) (DDIT1).
AI0702 95	6699	P48317	6700	M60974	6701	P24522	6702	95	DNA-damage- Inducible transcript 1	rc_AI070295 UI-R-YO-It-d-01-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-YO-It-d- 01-Q-UI /clone_end=3 /gb=AI070295 /ug=Rn.10250 /len=545	Growth arrest and DNA- damage- Inducible protein GADD45 alpha (DNA-damage Inducible transcript 1) (DDIT1).
AI0705 21	6703	P18395	6704	AY049788	6705	O75534	6706	94.37	Rat unr mRNA for unr protein with unknown function	rc_AI070521 UI-R-YO-It-f-09-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-YO-It-f- 09-Q-UI /clone_end=3 /gb=AI070521 /ug=Rn.3562 /len=561	Cytoplasmic. UNR protein.

Table 2.

AI0705 21	6707	P18395	6708	AY049788	6709	O75534	6710	94.37	Rat unr mRNA for unr protein with unknown function	NM_012959	rc_AI070521 UI-R-Y0-iv-f-09-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-Y0-iv-f- 08-Q-UI /clone_end=3 /gb=AI070521 /ug=Rn.3562 /len=561	Cytoplasmic.	UNR protein.
AI0707 21	6711	Q62897	6712	AF042080	6713	P58159	6714	90.19	Glial cell line- derived neurotrophic factor receptor alpha		rc_AI070721 UI-R-C2-mx-h-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- C2-mx-h-07-Q-UI /clone_end=3 /gb=AI070721 /ug=Rn.6281 /len=368	Attached to the membrane by a GPI- anchor.	GDNF receptor alpha precursor (GDNFR-alpha) (TGF-beta related neurotrop hic factor receptor 1) (RET ligand 1).
AI0709 67	6715	P49911	6716	X75090	6717	P39887	6718	88	Acid nuclear phosphoprotei n 32 (leucine rich)		rc_AI070987 UI-R-C2-na-d-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-C2-na- d-08-Q-UI /clone_end=3 /gb=AI070987 /ug=Rn.10123 /len=448	Nuclear.	Leucine-rich acidic nuclear protein.
AI0709 67	6719	P49911	6720	X75090	6721	P39887	6722	88	Acid nuclear phosphoprotei n 32 (leucine rich)		rc_AI070987 UI-R-C2-na-d-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-C2-na- d-08-Q-UI /clone_end=3 /gb=AI070987 /ug=Rn.10123 /len=448	Nuclear.	Leucine-rich acidic nuclear protein.
AI0712 99	6723	O08876	6724	S81439	6725	Q13118	6726	87.11	TGFB Inducible early growth response		rc_AI071299 UI-R-C1-ko-d-03-Q-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R-C1-ko- d-03-Q-UI /clone_end=3 /gb=AI071299 /ug=Rn.2398 /len=465	Nuclear.	Transforming growth factor- beta-inducible early growth response protein 1 (TGFB- Inducible early growth response protein 1) (TIEG- 1)(Knueppel-like factor 10) (Zinc finger transcription factor homolog CPG

Table 2.

AI071435	6727	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			Rattus norvegicus Sacm21/RT1-A intergenic region, haplotype RT1n and partial RT1-A gene for MHC Class I antigen	AI071435	rc_AI071435 UI-R-C1-ku-a-04-0-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R-C1-ku-a-04-0-UI /clone_end=3 /gb=AI071435 /ug=Rn.21933 /len=446			
AI072943	6728	P47971	6729	U61849	6730	Q15818	6731	90.86	Rattus norvegicus neuronal pentraxin precursor mRNA, complete cds	rc_AI072943 UI-R-Y0-mc-h-09-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-Y0-mc-h-09-0-UI /clone_end=3 /gb=AI072943 /ug=Rn.10233 /len=384	SECRETORY VESICLES	Neuronal pentraxin I precursor (NP-I) (NP1) (47 kDa talpoxin-binding protein).
AI073164	6732	P56603	6733	NM_004866	6734	O15128	6735	43	SCAMP	rc_AI073164 UI-R-Y0-mt-e-03-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-Y0-mt-e-03-0-UI /clone_end=3 /gb=AI073164 /ug=Rn.20374 /len=447	Integral membrane protein.	Secretory carrier-associated membrane protein 1 (SCAMP 37).
AI073204	6738	P42855	6737	BC000179	6738	P42855	6739	99.41	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, epsilon polypeptide	rc_AI073204 UI-R-Y0-ix-a-09-0-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-Y0-ix-a-09-0-UI /clone_end=3 /gb=AI073204 /ug=Rn.4225 /len=358	Cytoplasmic.	14-3-3 protein epsilon (Mitochondrial import stimulation factor Laubunit) (Protein kinase C inhibitor protein-1) (KCIP-1) (14-3-3E).

Table 2.

AI1011 03	6740	Q84357	6741	AF135372	6742	P19065	6743	98	Vesicle-associated membrane protein (synaptobrevin 2)		rc_AI101103 EST210392 Rattus norvegicus cDNA, 3' end /clone=RBRBF53 /clone_end=3 /gb=AI101103 /gi=3708076 /ug=Rn.11288 /len=364	TYPE II MEMBRANE PROTEIN. NEURONAL SYNAPTIC VESICLES.	Vesicle-associated membrane protein 2 (VAMP 2) (Synaptobrevin 2).
AI1013 20	6744	P87607	6745	AF029779	6746	Q8Y219	6747	92.08	Jagged2	AF038572	rc_AI101320 EST210608 Rattus norvegicus cDNA, 3' end /clone=RBRBL38 /clone_end=3 /gb=AI101320 /ug=Rn.22459 /len=616	Type I membrane protein.	Jagged 2 (Jagged2) (Fragment).
AI1017 43	6748	NP_077 368	6749	NM_0004 14	6750	P51659	6751	81	peroxisomal multifunctional 2 enzyme type II	NM_02439	rc_AI101743 EST211032 Rattus norvegicus cDNA, 3' end /clone=RBRBU51 /clone_end=3 /gb=AI101743 /gi=3706605 /ug=Rn.2082 /len=612		
AI1020 31	6752	O08839	6753	U68485	6754	Q99688	6755	93.72	Rattus norvegicus mRNA for amphiphysin, amph2		rc_AI102031 EST211320 Rattus norvegicus cDNA, 3' end /clone=RBRBY15 /clone_end=3 /gb=AI102031 /gi=3708866 /ug=Rn.17098 /len=583	Nuclear and cytoplasmic.	Myc box dependent interacting protein 1 (Bridging Integrator 1)(Amphiphysin- like protein) (Amphiphysin II).
AI1020 31	6756	O08839	6757	U68485	6758	Q99688	6759	93.72	Rattus norvegicus mRNA for amphiphysin, amph2		rc_AI102031 EST211320 Rattus norvegicus cDNA, 3' end /clone=RBRBY15 /clone_end=3 /gb=AI102031 /gi=3708866 /ug=Rn.17098 /len=583	Nuclear and cytoplasmic.	Myc box dependent interacting protein 1 (Bridging Integrator 1)(Amphiphysin- like protein) (Amphiphysin II).



Table 2.

AI1020 31	6760	O08839	6761	U68485	6762	Q99888	6763	93.72	Rattus norvegicus mRNA for amphiphysin, amph2	rc_AI102031 EST211320 Rattus norvegicus cDNA, 3' end /clone=RBRBY15 /clone_end=3 /gb=AI102031 /gi=3708866 /ug=Rn.17098 /len=583	Nuclear and cytoplasmic.	Myc box dependent interacting protein 1 (Bridging Integrator 1)/(Amphiphysin- like protein) (Amphiphysin II).
AI1020 31	6764	O08839	6765	U68485	6766	Q99888	6767	93.72	Rattus norvegicus mRNA for amphiphysin, amph2	rc_AI102031 EST211320 Rattus norvegicus cDNA, 3' end /clone=RBRBY15 /clone_end=3 /gb=AI102031 /gi=3708866 /ug=Rn.17098 /len=583	Nuclear and cytoplasmic.	Myc box dependent interacting protein 1 (Bridging Integrator 1)/(Amphiphysin- like protein) (Amphiphysin II).
AI1020 44	6768	No Rat Protein Found.		L22009	6769	P31943	6770	100	Rattus norvegicus CDK109 mRNA (mitochondrial )	rc_AI102044 EST211333 Rattus norvegicus cDNA, 3' end /clone=RBRBY28 /clone_end=3 /gb=AI102044 /gi=3708879 /ug=Rn.4229 /len=549		
AI1021 03	6771	BAA189 69	6772	A1205643	6773	BAA216 61	6774	92.91	Phosphatidylin ositol 4-kinase	rc_AI102103 EST211392 Rattus norvegicus cDNA, 3' end /clone=RBRBY91 /clone_end=3 /gb=AI102103 /gi=3708936 /ug=Rn.14991 /len=611		
AI1021 03	6775	BAA189 69	6776	A1205643	6777	BAA216 61	6778	92.91	Phosphatidylin ositol 4-kinase	rc_AI102103 EST211392 Rattus norvegicus cDNA, 3' end /clone=RBRBY91 /clone_end=3 /gb=AI102103 /gi=3708936 /ug=Rn.14991 /len=611		
AI1025 62	6779	P02803	6780	BG260238	6781	SMHU1 E		93.1	metallothionein I (mt-I)	rc_AI102562 EST211851 Rattus norvegicus cDNA, 3' end /clone=REMBP28 /clone_end=3 /gb=AI102562 /gi=3707306 /ug=Rn.2714 /len=405		Metallothionein-I (MT-I).

Table 2.

AI1026 20	6782	AAD25 049	6783	AA834992	6784	Q13233	6785	97.01	MAP kinase Kinase 1 (Mekk1)	AF117340	rc_AI102820 EST211909 Rattus norvegicus cDNA, 3' end /clone=REMBQ09 /clone_end=3 /gb=AI102820 /gi=3707344 /ug=Rn.9056 /len=522	Mitochondrial	"isovaleryl-CoA dehydrogenase, mitochondrial precursor (EC 1.3.99.10)(VD).
AI1028 38	6786	P12007	6787	AK022777	6788	P28440	6789	90.77	Isovaleryl Coenzyme A dehydrogenas e	NM_01259 2	rc_AI102838 EST212127 Rattus norvegicus cDNA, 3' end /clone=REMBT53 /clone_end=3 /gb=AI102838 /ug=Rn.147 /len=458	Mitochondrial matrix.	"isovaleryl-CoA dehydrogenase, mitochondrial precursor (EC 1.3.99.10)(VD).
AI1028 38	6790	P12007	6791	AK022777	6792	P28440	6793	90.77	Isovaleryl Coenzyme A dehydrogenas e	NM_03170 2	rc_AI102838 EST212127 Rattus norvegicus cDNA, 3' end /clone=REMBT53 /clone_end=3 /gb=AI102838 /ug=Rn.147 /len=458	Mitochondrial matrix.	"isovaleryl-CoA dehydrogenase, mitochondrial precursor (EC 1.3.99.10)(VD).
AI1030 74	6794	P09388	6795	AW13825 3	6796	XP_017 626		97.12	ribosomal protein S12	NM_03170 9	rc_AI103074 EST212363 Rattus norvegicus cDNA, 3' end /clone=REMBW89 /clone_end=3 /gb=AI103074 /gi=3707671 /ug=Rn.3379 /len=528	Cytoplasmic.	40S ribosomal protein S12.
AI1038 74	6797	AA102 122	6798	M96256	6799	Q00688	6800	92.93	ESTs, Weakly similar to FKB1 RAT FK506- BINDING PROTEIN [R.norvegicus]	BC002122	rc_AI103874 EST213163 Rattus norvegicus cDNA, 3' end /clone=RHEBU32 /clone_end=3 /gb=AI103874 /gi=3708362 /ug=Rn.1464 /len=437		

Table 2.

AI1038 74	6801	AAH02 122	6802	M96256	6803	Q00688	6804	92.93	ESTs, Weakly similar to FKB1 RAT FK508- BINDING PROTEIN [R.norvegicus]	BC002122	rc_AI103874 EST213163 Rattus norvegicus cDNA, 3' end /clone=RHEBU32 /clone_end=3 /gb=AI103874 /gi=3708352 /ug=Rn.1484 /len=437		
AI1039 57	6805	Q62745	6808	NM_0043 56	6807	P18582	6808	89	target of the antiproliferativ e antibody	U19894	rc_AI103957 EST213246 Rattus norvegicus cDNA, 3' end /clone=RHEBV58 /clone_end=3 /gb=AI103957 /gi=3708419 /ug=Rn.1975 /len=652	Integral membrane protein.	CD81 antigen (26 kDa cell surface protein TAPA-1) (Target of theantiproliferati ve antibody 1).
AI1039 57	6809	Q62745	6810	NM_0043 56	6811	P18582	6812	89	target of the antiproliferativ e antibody	U19894	rc_AI103957 EST213246 Rattus norvegicus cDNA, 3' end /clone=RHEBV58 /clone_end=3 /gb=AI103957 /gi=3708419 /ug=Rn.1975 /len=652	Integral membrane protein.	CD81 antigen (26 kDa cell surface protein TAPA-1) (Target of theantiproliferati ve antibody 1).
AI1040 35	6813	NP_078 904	6814	AL528775	6815	No Human Protein Found.		94.39	EST (mouse hypothetical protein)		rc_AI104035 EST213324 Rattus norvegicus cDNA, 3' end /clone=RHEBW48 /clone_end=3 /gb=AI104035 /gi=3708471 /ug=Rn.6009 /len=315		
AI1043 89	6816	P04177	6817	AK022876	6818	XP_032 531	6819	92.57	Mus musculus ankyrin-repeat family A protein	AI104389	rc_AI104389 EST213678 Rattus norvegicus cDNA, 3' end /clone=RHECC87 /clone_end=3 /gb=AI104389 /gi=3708757 /ug=Rn.11082 /len=488		Tyrosine 3- monooxygenase (EC 1.14.18.2) (Tyrosine 3- hydroxylase) (TH).

Table 2.

AI1043 89	6820	P04177	6821	AK022876	6822	I55282	6823	92.57	Tyrosine hydroxylase		rc_AI104389 EST213678 Rattus norvegicus cDNA, 3' end /clone=RHECC67 /clone_end=3 /gb=AI104389 /gi=3708757 /ug=Rn.11082 /len=488	Tyrosine 3- monooxygenase (EC 1.14.16.2) (Tyrosine 3- hydroxylase) (TH).
AI1045 13	6824	P11240	6825	M22760	6826	P20674	6827	91.57	Rat CoxVa mRNA for mitochondrial cytochrome c oxidase subunit Va	Mitochondrial inner membrane.	rc_AI104513 EST213802 Rattus norvegicus cDNA, 3' end /clone=RHECE50 /clone_end=3 /gb=AI104513 /gi=3708857 /ug=Rn.11077 /len=585	"Cytochrome c oxidase polypeptide Va, mitochondrial precursor(EC 1.9.3.1)." "
AI1045 13	6828	P11240	6829	M22760	6830	P20674	6831	91.57	Rat CoxVa mRNA for mitochondrial cytochrome c oxidase subunit Va	Mitochondrial inner membrane.	rc_AI104513 EST213802 Rattus norvegicus cDNA, 3' end /clone=RHECE50 /clone_end=3 /gb=AI104513 /gi=3708857 /ug=Rn.11077 /len=585	"Cytochrome c oxidase polypeptide Va, mitochondrial precursor(EC 1.9.3.1)." "
AI1045 20	6832	P10818	6833	XM_01226 5		XP_012 265		89	Rat mRNA for liver cytochrome c oxidase subunit Va	Mitochondrial inner membrane.	rc_AI104520 EST213809 Rattus norvegicus cDNA, 3' end /clone=RHECE58 /clone_end=3 /gb=AI104520 /gi=3708862 /ug=Rn.880 /len=532	"Cytochrome c oxidase polypeptide Va- liver, mitochondrial precursor(EC 1.9.3.1)." "
AI1045 24	6834	NP_112 620	6835	BF000687	6836	Q8Y2D1	6837	93.14	heterogeneous nuclear ribonucleoprotein A/B		rc_AI104524 EST213813 Rattus norvegicus cDNA, 3' end /clone=RHECE63 /clone_end=3 /gb=AI104524 /gi=3708866 /ug=Rn.3365 /len=613	"Cytochrome c oxidase polypeptide Va- liver, mitochondrial precursor(EC 1.9.3.1)." "
AI1046 79	6838	NP_079 799	6839	XP_04074 7		XM_040 747			NADH dehydrogenase		rc_AI104679 EST213968 Rattus norvegicus cDNA, 3' end /clone=RHECH53 /clone_end=3 /gb=AI104679 /gi=3708888 /ug=Rn.8096 /len=479	"Cytochrome c oxidase polypeptide Va- liver, mitochondrial precursor(EC 1.9.3.1)." "
AI1046 79	6840	NP_079 799	6841	XP_04074 7		XM_040 747			NADH dehydrogenase		rc_AI104679 EST213968 Rattus norvegicus cDNA, 3' end /clone=RHECH53 /clone_end=3 /gb=AI104679 /gi=3708888 /ug=Rn.8096 /len=479	"Cytochrome c oxidase polypeptide Va- liver, mitochondrial precursor(EC 1.9.3.1)." "

Table 2.

AI1047 07	6842	P51638	6843	AF043101	6844	P56539	6845	89.84	Caveolin 3				U53183	rc_AI105044 EST214333 Rattus norvegicus cDNA, 3 end /clone=RHECM89 /clone_end=3 /gb=AI105044 /ug=Rn.1338 /len=572	MEMBRANE OF CAVEOLAE. POTENTIAL HAIRPIN- LIKE STRUCTURE IN THE MEMBRANE	Caveolin-3.
AI1050 44	6846	AAC13 319	6847	No human homolog found.		No Human Protein Found.			250 kDa estrous- specific protein mRNA, partial cds				X57228	rc_AI105054 EST214343 Rattus norvegicus cDNA, 3 end /clone=RHECM06 /clone_end=3 /gb=AI105054 /gl=3709235 /ug=Rn.4327 /len=706	"THE COATOMER IS CYTOPLAS MIC OR POLYMERIZ ED ON THE CYTOPLAS MIC SIDE OF THE GOLGI AS WELL AS ON THE VESICLES/B UDS ORIGINATING FROM IT	Coatomer beta subunit (Beta- coat protein) (Beta-COP).

Table 2.

AI105448	6852	P16232	6853	NM_005525	6854	P28845	6855	82.49	Hydroxysteroid dehydrogenase, type 1	NM_017080	rc_AI105448 EST214737 Rattus norvegicus cDNA, 3' end /clone=RKIBK51 /clone_end=3 /gb=AI105448 /gi=3709527 /ug=Rn.888 /len=638	Microsomal.	"Corticosteroid 11-beta-dehydrogenase, isozyme 1 (EC 1.1.1.146) (11-DH) (11-beta-hydroxysteroid dehydrogenase 1) (11-beta-HSD1)."
AI113289	6856	P20417	6857	AI803199	6858	NP_002818	6859	88.5	protein tyrosine phosphatase	NM_012637	rc_AI113289 UI-R-C2p-nt-h-07-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C2p-nt-h-07-Q-UI /clone_end=3 /gb=AI113289 /ug=Rn.11317 /len=332	ASSOCIATED TO THE ENDOPLASMIC RETICULUM VIA ITS C-TERMINAL DOMAIN WITH ITS PHOSPHATASE DOMAIN ORIENTED TOWARDS THE CYTOPLASM.	"Protein-tyrosine phosphatase, non-receptor type 1 (EC 3.1.3.48) (Protein-tyrosine phosphatase 1B) (PTP-1B)."
AI136175	6860	AAA42000	6861	AF235022	6862	P57729	6863	91.24	Rat rab-related GTP-binding protein mRNA, complete cds		rc_AI136175 UI-R-C2p-ns-a-04-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C2p-ns-a-04-Q-UI /clone_end=3 /gb=AI136175 /ug=Rn.9824 /len=285		

Table 2.

AI1363 96	6864	Q02293	6865	AK024087	6866	NP_002 019	6867	92.24	farnesyltransferase beta subunit	M69056	rc_AI136398 UI-R-C2p-od-e-12-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- C2p-od-e-12-Q-UI /clone_end=3 /gb=AI136398 /ug=Rn.8873 /len=435	Protein farnesyltransferase beta subunit (EC 2.5.1.-) (CAAXfarnesyltransferase beta subunit) (RAS proteins prenyltransferase beta) (FTase- beta).
AI1368 91	6868	P17431	6869	A1902540	6870	Q00411	6871	97.14	Butyrate response factor 1		rc_AI136891 UI-R-C2p-of-f-12-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-C2p-of- f-12-Q-UI /clone_end=3 /gb=AI136891 /ug=Rn.6142 /len=449	Butyrate response factor 1 (TIS11B protein) (EGF- inducible proteinCMG1).
AI1369 77	6872	S14538		M88279	6873	Q02790	6874	96.18	ESTs, Highly similar to P59 PROTEIN [M.musculus]		rc_AI136977 UI-R-C2p-nz-f-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- C2p-nz-f-10-Q-UI /clone_end=3 /gb=AI136977 /ug=Rn.23741 /len=376	
AI1369 77	6875	JN0873		M88279	6876	Q02790	6877	96.18	ESTs, Highly similar to JN0873 immunophilin p59 - mouse [M.musculus]	X70887	rc_AI136977 UI-R-C2p-nz-f-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- C2p-nz-f-10-Q-UI /clone_end=3 /gb=AI136977 /ug=Rn.23741 /len=376	
AI1369 77	6878	S14538		M88279	6879	Q02790	6880	96.18	ESTs, Highly similar to P59 PROTEIN [M.musculus]		rc_AI136977 UI-R-C2p-nz-f-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- C2p-nz-f-10-Q-UI /clone_end=3 /gb=AI136977 /ug=Rn.23741 /len=376	
AI1369 77	6881	S14538		M88279	6882	Q02790	6883	96.18	ESTs, Highly similar to P59 PROTEIN [M.musculus]		rc_AI136977 UI-R-C2p-nz-f-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- C2p-nz-f-10-Q-UI /clone_end=3 /gb=AI136977 /ug=Rn.23741 /len=376	
AI1369 77	6884	S14538		M88279	6885	Q02790	6886	96.18	ESTs, Highly similar to P59 PROTEIN [M.musculus]		rc_AI136977 UI-R-C2p-nz-f-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- C2p-nz-f-10-Q-UI /clone_end=3 /gb=AI136977 /ug=Rn.23741 /len=376	

Table 2.

AI1369 77	6887	JN0873	M88279	6888	Q02790	6889	98.18	ESTs, Highly similar to JN0873 immunophilin p59 - mouse [M.musculus]	X70887	rc_AI136977 UI-R-C2p-nz-f-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- C2p-nz-f-10-Q-UI /clone_end=3 /gb=AI136977 /ug=Rn.23741 /len=376	Leydig cell tumor 10 kDa protein.
AI1377 90	6890	Q05310	6891	NM_0140 47	6892	AAD444 84	87.66	R.norvegicus mRNA from Leydig cell hypercalcemic tumour H-500		rc_AI137790 UI-R-E1-gc-a-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E1-gc-a- 08-Q-UI /clone_end=3 /gb=AI137790 /ug=Rn.11148 /len=590	
AI1447 67	6894	Q63582	6895	X03541	6896	P04629	66	brain alpha- tropomyosin	M34138	rc_AI144767 UI-R-BT0-pr-c-03-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- BT0-pr-c-03-Q-UI /clone_end=3 /gb=AI144767 /ug=Rn.1033 /len=475	Tropomyosin 1 alpha chain (Alpha- tropomyosin).
AI1461 95	6898	Q62847	6899	NM_0168 24	6900	Q8JUEY8	78	Adducin 3, gamma	NM_03155 2	rc_AI146195 UI-R-A1-ew-e-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-A1-ew- e-07-Q-UI /clone_end=3 /gb=AI146195 /ug=Rn.9416 /len=403	Gamma adducin (Adducin-like protein 70) (Protein kinase C binding protein 35H).
AI1690 05	6902	Q04753	6903	AA832121	6904	NP_001 284	94.77	chloride channel current inducer (Cicn1),	NM_03171 9	rc_AI169005 EST214833 Rattus norvegicus cDNA, 3 end /clone=RKIBL76 /clone_end=3 /gb=AI169005 /gi=3705313 /ug=Rn.4089 /len=601	Cytoplasmic. "Chloride conductance regulatory protein ICin (I(Cin)) (Chloridechanne l, nucleotide sensitive 1A)."
AI1693 70	6906	P02551	6907	BC008379	6908	P05209	100	Rat mRNA for alpha-tubulin	V01226	rc_AI169370 EST215214 Rattus norvegicus cDNA, 3 end /clone=RKIBR40 /clone_end=3 /gb=AI169370 /gi=3705678 /ug=Rn.3389 /len=581	Tubulin alpha-1 chain.



Table 2.

AI1706 13	6910	P26772	6911	X75821	6912	Q04984	6913	90.29	Heat shock 10 kD protein 1 (chaperonin 10)	rc_AI170613 EST216547 Rattus norvegicus cDNA, 3' end /clone=RMUAZ03 /clone_end=3 /gb=AI170613 /gi=3710653 /ug=Rn.1540 /len=542	Mitochondrial matrix.	"10 kDa heat shock protein, mitochondrial (Hsp10) (10 kDa chaperonin)(CP N10)."
AI1706 13	6914	P26772	6915	X75821	6916	Q04984	6917	90.29	Heat shock 10 kD protein 1 (chaperonin 10)	rc_AI170613 EST216547 Rattus norvegicus cDNA, 3' end /clone=RMUAZ03 /clone_end=3 /gb=AI170613 /gi=3710653 /ug=Rn.1540 /len=542	Mitochondrial matrix.	"10 kDa heat shock protein, mitochondrial (Hsp10) (10 kDa chaperonin)(CP N10)."
AI1706 13	6918	P26772	6919	X75821	6920	Q04984	6921	90.29	Heat shock 10 kD protein 1 (chaperonin 10)	rc_AI170613 EST216547 Rattus norvegicus cDNA, 3' end /clone=RMUAZ03 /clone_end=3 /gb=AI170613 /gi=3710653 /ug=Rn.1540 /len=542	Mitochondrial matrix.	"10 kDa heat shock protein, mitochondrial (Hsp10) (10 kDa chaperonin)(CP N10)."
AI1706 13	6922	P26772	6923	X75821	6924	Q04984	6925	90.29	Heat shock 10 kD protein 1 (chaperonin 10)	rc_AI170613 EST216547 Rattus norvegicus cDNA, 3' end /clone=RMUAZ03 /clone_end=3 /gb=AI170613 /gi=3710653 /ug=Rn.1540 /len=542	Mitochondrial matrix.	"10 kDa heat shock protein, mitochondrial (Hsp10) (10 kDa chaperonin)(CP N10)."
AI1706 13	6926	P26772	6927	X75821	6928	Q04984	6929	90.29	Heat shock 10 kD protein 1 (chaperonin 10)	rc_AI170613 EST216547 Rattus norvegicus cDNA, 3' end /clone=RMUAZ03 /clone_end=3 /gb=AI170613 /gi=3710653 /ug=Rn.1540 /len=542	Mitochondrial matrix.	"10 kDa heat shock protein, mitochondrial (Hsp10) (10 kDa chaperonin)(CP N10)."

Table 2.

AI1706 13	6930	P26772	6931	X75821	6932	Q04984	6933	90.29	Heat shock 10 kD protein 1 (chaperonin 10)		rc_AI170613 EST216547 Rattus norvegicus cDNA, 3' end /clone=RMUAZ03 /clone_end=3 /gb=AI170613 /gi=3710653 /ug=Rn.1540 /len=542	Mitochondrial matrix.	"10 kDa heat shock protein, mitochondrial (Hsp10) (10 kDa chaperonin)(CP N10)."
AI1706 85	6934	O35824	6935	NM_0058 80	6936	O60884	6937	86	mDj3	AB028853	rc_AI170685 EST216821 Rattus norvegicus cDNA, 3' end /clone=RMUAZ92 /clone_end=3 /gb=AI170685 /gi=3710725 /ug=Rn.3904 /len=648	Membrane- bound .	DnaJ homolog subfamily A member 2 (RDJ2).
AI1711 67	6938	P55260	6939	M82809	6940	P09525	6941	86.94	annexin IV	NM_02415 5	rc_AI171167 EST217116 Rattus norvegicus cDNA, 3' end /clone=RMUBH06 /clone_end=3 /gb=AI171167 /gi=3711207 /ug=Rn.19270 /len=596		Annexin A4 (Annexin IV) (Lipocortin IV) (36 kDa zymogen granulemembra ne associated protein) (ZAP36).
AI1712 43	6942	Q62728	6943	AF069072	6944	Q9Y2J2	6945	89.23	Rattus norvegicus mRNA for type II brain 4.1 minor isoform, complete cds		rc_AI171243 EST217198 Rattus norvegicus cDNA, 3' end /clone=RMUBI06 /clone_end=3 /gb=AI171243 /gi=3711283 /ug=Rn.8686 /len=631		
AI1712 43	6946	Q62728	6947	AF069072	6948	Q9Y2J2	6949	89.23	Rattus norvegicus mRNA for type II brain 4.1 minor isoform, complete cds		rc_AI171243 EST217198 Rattus norvegicus cDNA, 3' end /clone=RMUBI06 /clone_end=3 /gb=AI171243 /gi=3711283 /ug=Rn.8686 /len=631		

Table 2.

AI1712 88	6950	P41138	6951	X66924	6952	Q02535	6953	88.38	Inhibitor of DNA binding 3 (ldb3),	NM_00832 1	rc_AI171268 EST217223 Rattus norvegicus cDNA, 3' end /clone=RMUBI34 /clone_end=3 /gb=AI171268 /gi=3711308 /ug=Rn.2760 /len=589	Nuclear.	DNA-binding protein inhibitor ID-3.
AI1714 62	6954	Q07490	6955	A1860750	6956	A48996		84.52	CD24 antigen	Z11663	rc_AI171462 EST217424 Rattus norvegicus cDNA, 3' end /clone=RMUBI26 /clone_end=3 /gb=AI171462 /gi=3711502 /ug=Rn.6007 /len=490	Attached to the membrane by a GPI- anchor.	Signal transducer CD24 precursor (Heat stable antigen) (HSA)(Nectadrin ).
AI1714 62	6957	Q07490	6958	A1860750	6959	A48996		84.52	CD24 antigen	Z11663	rc_AI171462 EST217424 Rattus norvegicus cDNA, 3' end /clone=RMUBI26 /clone_end=3 /gb=AI171462 /gi=3711502 /ug=Rn.6007 /len=490	Attached to the membrane by a GPI- anchor.	Signal transducer CD24 precursor (Heat stable antigen) (HSA)(Nectadrin ).
AI1716 30	6960	P70818	6961	L35263	6962	Q16539	6963	91.28	p38 mitogen activated protein kinase (Mapk14)	NM_03102 0	rc_AI171630 EST217602 Rattus norvegicus cDNA, 3' end /clone=RMUBN60 /clone_end=3 /gb=AI171630 /gi=3711670 /ug=Rn.3293 /len=708		Mitogen- activated protein kinase 14 (EC 2.7.1.-) (Mitogen activated protein kinase p38) (MAP kinase p38).
AI1719 66	6964	CAA89 832	6965	U15085	6966	P28068	6967	85.8	RT1.Mb	Z49762	rc_AI171986 EST217960 Rattus norvegicus cDNA, 3' end /clone=RMUBT25 /clone_end=3 /gb=AI171986 /gi=3712006 /ug=Rn.5892 /len=663		

Table 2.

AI1720 17	6968	P11884	6969	K03001	6970	P05091	6971	88.77	Aldehyde dehydrogenase 2, mitochondrial	NM_03241 6	rc_AI172017 EST218012 Rattus norvegicus cDNA, 3' end /clone=RMUBT91 /clone_end=3 /gb=AI172017 /gi=3712057 /ug=Rn.2300 /len=650	Mitochondrial matrix	"Aldehyde dehydrogenase, mitochondrial precursor (EC 1.2.1.3) (ALDHclass 2) (ALDH1) (ALDH- E2)."
AI1720 17	6972	P11884	6973	K03001	6974	P05091	6975	88.77	Aldehyde dehydrogenase 2, mitochondrial	NM_03241 6	rc_AI172017 EST218012 Rattus norvegicus cDNA, 3' end /clone=RMUBT91 /clone_end=3 /gb=AI172017 /gi=3712057 /ug=Rn.2300 /len=550	Mitochondrial matrix	"Aldehyde dehydrogenase, mitochondrial precursor (EC 1.2.1.3) (ALDHclass 2) (ALDH1) (ALDH- E2)."
AI1722 47	6976	P22985	6977	D11456	6978	P47989	6979	86.3	xanthine dehydrogenase 2, (Xdh),	NM_01715 4	rc_AI172247 EST218247 Rattus norvegicus cDNA, 3' end /clone=RMUBW79 /clone_end=3 /gb=AI172247 /gi=3712287 /ug=Rn.7324 /len=471	Peroxisomal	Xanthine dehydrogenase/ oxidase [Includes: Xanthine dehydrogenase( EC 1.1.1.204) (XD); Xanthine oxidase (EC 1.1.3.22) (XO) (Xanthineoxidor eductase)].
AI1724 11	6980	P23764	6981	A1245240	6982	P22352	6983	89	Plasma glutathione peroxidase precursor		rc_AI172411 EST218418 Rattus norvegicus cDNA, 3' end /clone=RMUBZ17 /clone_end=3 /gb=AI172411 /gi=3712451 /ug=Rn.1491 /len=617	Extracellular	Plasma glutathione peroxidase precursor (EC 1.11.1.9) (GSHPx-P).

Table 2.

AI1757 64	6984	P07308	6985	AF097514	6986	O00767	6987	85	Rat liver stearoyl-CoA desaturase mRNA, complete cds		rc_AI175764 EST219331 Rattus norvegicus cDNA, 3' end /clone=ROVBF01 /clone_end=3 /gb=AI175764 /ug=Rn.10882 /len=441	Integral membrane protein. Endoplasmic reticulum.	Acyl-CoA desaturase (EC 1.14.99.5) (Stearoyl-CoA desaturase) (Fattyacid desaturase) (Delta(9)- desaturase).
AI1759 35	6988	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Mus musculus adult male cecum cDNA, RIKEN		rc_AI175935 EST219508 Rattus norvegicus cDNA, 3' end /clone=ROVBH40 /clone_end=3 /gb=AI175935 /ug=Rn.8737 /len=448		
AI1760 21	6989	NP_032 986	6990	B1823499	6991	XM_034 848		95.77	Mus musculus phosphatase and tensin homolog	NM_00886 0	rc_AI176021 EST219597 Rattus norvegicus cDNA, 3' end /clone=ROVBJ53 /clone_end=3 /gb=AI176021 /ug=Rn.22158 /len=586		
AI1760 52	6992	P29411	6993	AB021870	6994	Q8UJ7	6995	89	Adenylyate kinase 3		rc_AI176052 EST219828 Rattus norvegicus cDNA, 3' end /clone=ROVBJ90 /clone_end=3 /gb=AI176052 /ug=Rn.60 /len=587	Mitochondrial matrix.	GTP-AMP phosphotransfer ase mitochondrial (EC 2.7.4.10) (AK3).
AI1761 70	6996	Q62658	6997	XM_01666 0		XP_016 680			Mus musculus, FK506 binding protein 1a	BC004671	rc_AI176170 EST219751 Rattus norvegicus cDNA, 3' end /clone=ROVBL77 /clone_end=3 /gb=AI176170 /ug=Rn.1740 /len=469	Cytoplasmic.	FK506-binding protein (FKBP- 12) (Peptidyl- prolyl cis-trans isomerase)(EC 5.2.1.8) (PPIase) (Rotamase) (Immunophilin FKBP12).

Table 2.

AI1763 51	6998	Q64560	6999	BF511874	7000	P29144	7001	91.62	Tripeptidylpeptidase II	rc_AI176351 EST219834 Rattus norvegicus cDNA, 3' end /clone=ROVBQ51 /clone_end=3 /gb=AI176351 /ug=Rn.11265 /len=540	Cytoplasmic	Tripeptidyl-peptidase II (EC 3.4.14.10) (TPP-II) (Tripeptidylaminopeptidase) (Cholecystokinin inactivating peptidase).
AI1763 51	7002	Q64560	7003	BF511874	7004	P29144	7005	91.62	Tripeptidylpeptidase II	rc_AI176351 EST219834 Rattus norvegicus cDNA, 3' end /clone=ROVBQ51 /clone_end=3 /gb=AI176351 /ug=Rn.11265 /len=540	Cytoplasmic	Tripeptidyl-peptidase II (EC 3.4.14.10) (TPP-II) (Tripeptidylaminopeptidase) (Cholecystokinin inactivating peptidase).
AI1764 22	7006	No Rat Protein Found.		BE172552	7007	NP_004444	7008	95.07	ESTs, Highly similar to 2006241A flavoprotein ubiquinone oxidoreductase [H.sapiens]	rc_AI176422 EST220006 Rattus norvegicus cDNA, 3' end /clone=ROVBR53 /clone_end=3 /gb=AI176422 /ug=Rn.4044 /len=430		
AI1764 22	7009	No Rat Protein Found.		BE172552	7010	NP_004444	7011	95.07	ESTs, Highly similar to 2006241A flavoprotein ubiquinone oxidoreductase [H.sapiens]	rc_AI176422 EST220006 Rattus norvegicus cDNA, 3' end /clone=ROVBR53 /clone_end=3 /gb=AI176422 /ug=Rn.4044 /len=430		

Table 2.

AI1764 61	7012	Q62638	7013	U64791	7014	Q92896	7015	96	selectin, endothelial cell, ligand (Glg1),	NM_01721 1	rc_AI176461 EST220046 Rattus norvegicus cDNA, 3' end /clone=ROVBS09 /clone_end=3 /gb=AI176461 /ug=Rn.10507 /len=534	TYPE I MEMBRANE PROTEIN; GOLGI MEDIAL CISTERNAE	Golgi apparatus protein 1 precursor (Golgi sialoglycoprotein in MG-160)(E- selectin ligand 1) (ESL-1).
AI1764 88	7016	BAA252 92	7017	U85193	7018	O00712	7019	96.19	NF1-B3	AB012232	rc_AI176488 EST220073 Rattus norvegicus cDNA, 3' end /clone=ROVBS47 /clone_end=3 /gb=AI176488 /ug=Rn.9909 /len=650		
AI1764 91	7020	NP_079 799	7021	XM_04074 7		XP_040 747			Mus musculus NADH dehydrogenase (ubiquinone) 1, subcomplex unknown, 1 (Ndufc1), mRNA	NM_02552 3	rc_AI176491 EST220076 Rattus norvegicus cDNA, 3' end /clone=ROVBS52 /clone_end=3 /gb=AI176491 /ug=Rn.8086 /len=575		
AI1765 04	7022	P13284	7023	AF097495	7024	O84925	7025	97.58	glutaminase	M65150	rc_AI176504 EST220089 Rattus norvegicus cDNA, 3' end /clone=ROVBS73 /clone_end=3 /gb=AI176504 /ug=Rn.5762 /len=658	Mitochondrial	"Glutaminase, kidney isoform, mitochondrial precursor (EC 3.5.1.2)(GLS) (L- glutamine amidohydrolase ) (K- glutaminase)."
AI1765 99	7026	P08526	7027	BG939205	7028	Q8P2X0	7029	92.45	Ribosomal protein L27		rc_AI176589 EST220177 Rattus norvegicus cDNA, 3' end /clone=ROVBU24 /clone_end=3 /gb=AI176589 /ug=Rn.1254 /len=538		60S ribosomal protein L27.

Table 2.

AI1765 89	7030	P08526	7031	BG939205	7032	Q9P2X0	7033	92.45	Ribosomal protein L27	AF369384	rc_AI176589 EST220177 Rattus norvegicus cDNA, 3' end /clone=ROVBU24 /clone_end=3 /gb=AI176589 /ug=Rn.1254 /len=536	60S ribosomal protein L27.
AI1765 89	7034	P08526	7035	BG939205	7036	Q9P2X0	7037	92.45	Ribosomal protein L27		rc_AI176589 EST220177 Rattus norvegicus cDNA, 3' end /clone=ROVBU24 /clone_end=3 /gb=AI176589 /ug=Rn.1254 /len=536	60S ribosomal protein L27.
AI1765 89	7038	P08526	7039	BG939205	7040	Q9P2X0	7041	92.45	Ribosomal protein L27		rc_AI176589 EST220177 Rattus norvegicus cDNA, 3' end /clone=ROVBU24 /clone_end=3 /gb=AI176589 /ug=Rn.1254 /len=536	60S ribosomal protein L27.
AI1768 89	7042	AAK534 28	7043	D87805	7044	P52564	7045	90.26	Mitogen- activated protein kinase kinase 6		rc_AI176889 EST220282 Rattus norvegicus cDNA, 3' end /clone=ROVBV58 /clone_end=3 /gb=AI176889 /ug=Rn.17258 /len=597	
AI1768 56	7046	Q64678	7047	U03688	7048	Q16678	7049	84.64	Cytochrome P450 1b1		rc_AI176856 EST220459 Rattus norvegicus cDNA, 3' end /clone=ROVBX74 /clone_end=3 /gb=AI176856 /ug=Rn.10125 /len=686	Cytochrome P450 1B1 (EC 1.14.14.1) (CYP1B1) (P450RAP).
AI1770 04	7050	P17425	7051	BC000297	7052	Q01581	7053	90.24	3-hydroxy-3- methylglutaryl- Coenzyme A synthase 1		rc_AI177004 EST220811 Rattus norvegicus cDNA, 3' end /clone=ROVBZ84 /clone_end=3 /gb=AI177004 /ug=Rn.5106 /len=332	"Hydroxymethyl glutaryl-CoA synthase, cytoplasmic (EC 4.1.3.5) (HMG- CoAsynthase) (3-hydroxy-3- methylglutaryl coenzyme A synthase).".



Table 2.

AI1770 04	7054	P17425	7055	BC000297	7056	Q01581	7057	90.24	3-hydroxy-3- methylglutaryl- Coenzyme A synthase 1	rc_AI177004 EST220511 Rattus norvegicus cDNA, 3' end /clone=ROVBZ64 /clone_end=3 /gb=AI177004 /ug=Rn.5108 /len=332	Cytoplasmic.	"Hydroxymethyl glutaryl-CoA synthase, cytoplasmic (EC 4.1.3.5) (HMG- CoA synthase) (3-hydroxy-3- methylglutaryl coenzyme A synthase)."
AI1771 61	7058	O54968	7059	S74017	7060	Q16236	7061	82	NF-E2-related factor 2	rc_AI177161 EST220768 Rattus norvegicus cDNA, 3' end /clone=ROVCB60 /clone_end=3 /gb=AI177161 /ug=Rn.10887 /len=616	Nuclear.	"Nuclear factor erythroid 2 related factor 2 (NF-E2 related factor 2)(NFE2- related factor 2) (Nuclear factor, erythroid derived 2, like 2)."
AI1771 61	7062	O54968	7063	S74017	7064	Q16236	7065	82	NF-E2-related factor 2	rc_AI177161 EST220768 Rattus norvegicus cDNA, 3' end /clone=ROVCB60 /clone_end=3 /gb=AI177161 /ug=Rn.10887 /len=616	Nuclear.	"Nuclear factor erythroid 2 related factor 2 (NF-E2 related factor 2)(NFE2- related factor 2) (Nuclear factor, erythroid derived 2, like 2)."

Table 2.

AI1774 04	7086	AAF739 53	7087	AK001595	7088	CAC432 28	7089	95.65	Mus musculus acyltitransfera se Tubedown- 1 mRNA	AF237622	rc_AI177404 EST221024 Rattus norvegicus cDNA, 3 end /clone=RPLBY70 /clone_end=3 /gb=AI177404 /ug=Rn.12587 /len=684		
AI1774 04	7070	AAF739 53	7071	AK001595	7072	CAC432 28	7073	95.65	Mus musculus acyltitransfera se Tubedown- 1 mRNA	AF237622	rc_AI177404 EST221024 Rattus norvegicus cDNA, 3 end /clone=RPLBY70 /clone_end=3 /gb=AI177404 /ug=Rn.12587 /len=684		
AI1776 83	7074	CAA76 339	7075	AW38340 4	7076	P51991	7077	100	hnRNP	Y16641	rc_AI177683 EST221324 Rattus norvegicus cDNA, 3 end /clone=RPLCE51 /clone_end=3 /gb=AI177683 /ug=Rn.3924 /len=434		
AI1777 51	7078	No Rat Protein Found.	7080	No human homolog found.	No Human Protein Found.				Mus musculus 10 days embryo cDNA, RIKEN		rc_AI177751 EST221393 Rattus norvegicus cDNA, 3 end /clone=RPLCF84 /clone_end=3 /gb=AI177751 /ug=Rn.5986 /len=686		
AI1779 86	7079	Q07205	7080	NM_0019 69	7081	P55010	7082	80	eukaryotic Initiation factor 5 (eIF-5)	NM_02007 5	rc_AI177986 EST221642 Rattus norvegicus cDNA, 3 end /clone=RPLCJ54 /clone_end=3 /gb=AI177986 /ug=Rn.3506 /len=636		Eukaryotic translation Initiation factor 5 (eIF-5).
AI1781 35	7083	O35798	7084	XM_01267 6	7085	XP_012 676	7086	78	complement component 1	NM_01925 9	rc_AI178135 EST221798 Rattus norvegicus cDNA, 3 end /clone=RPLCM57 /clone_end=3 /gb=AI178135 /ug=Rn.2765 /len=678	Mitochondrial matrix .	"Complement component 1, Q subcomponent binding protein, mitochondrialpr ecursor (Glycoprotein GC1QBP) (GC1Q-R protein)."
AI1782 04	7087	No Rat Protein Found.		No human homolog found.	No Human Protein Found.				EST (not recognized)		rc_AI178204 EST221869 Rattus norvegicus cDNA, 3 end /clone=RPLCN48 /clone_end=3 /gb=AI178204 /ug=Rn.221 /len=520		



Table 2.

AI1802 88	7111	P02761	7112	D90452	7113	Q05682	7114	90.15	Caldesmon 1	NM_01314 6	rc_AI180288 EST224031 Rattus norvegicus cDNA, 3' end /clone=RSPCS84 /clone_end=3 /gb=AI180288 /ug=Rn.10821 /len=417	15.5 kDa FABP IS CYTOSOLIC. IT IS PROBABLY TAKEN UP FROM THE URINARY LUMEN BY ENDOCYTO SIS.	Major urinary protein precursor (MUP) (Alpha- 2u-globulin) (15.5 kDa fatty acid binding protein) (15.5 kDa FABP) (Alpha(2)- euglobulin)(Aller gen Rat n 1) (Rat n 1).
AI1802 88	7115	P02761	7116	D90452	7117	Q05682	7118	90.15	Caldesmon 1	NM_01314 6	rc_AI180288 EST224031 Rattus norvegicus cDNA, 3' end /clone=RSPCS84 /clone_end=3 /gb=AI180288 /ug=Rn.10821 /len=417	15.5 kDa FABP IS CYTOSOLIC. IT IS PROBABLY TAKEN UP FROM THE URINARY LUMEN BY ENDOCYTO SIS.	Major urinary protein precursor (MUP) (Alpha- 2u-globulin) (15.5 kDa fatty acid binding protein) (15.5 kDa FABP) (Alpha(2)- euglobulin)(Aller gen Rat n 1) (Rat n 1).
AI1803 98	7119	O55081	7120	AK023320	7121	CAA536 61	7122	90.43	retinoblastoma a-like 2 (p130)	NM_03109 4	rc_AI180398 EST224140 Rattus norvegicus cDNA, 3' end /clone=RSPCX16 /clone_end=3 /gb=AI180398 /ug=Rn.11020 /len=554	Nuclear.	Retinoblastoma- like protein 2 (130 kDa retinoblastoma- associated protein) (PRB2) (P130) (RBR-2).

Table 2.

AI1804 24	7123	P35215	7124	AW67411 6	7125	NP_006 752	7126	96.68	tyrosine 3- monooxygena se/tryptophan 5- monooxygena se activation protein, zeta polypeptide	NM_01301 1	re_AI180424 EST224170 Rattus norvegicus cDNA, 3 end /clone=RSPCX52 /clone_end=3 /gb=AI180424 /ug=Rn.1282 /len=681	Cytoplasmic.	14-3-3 protein zeta/delta (Protein kinase C inhibitor protein-1)(KCIP- 1) (Mitochondrial import stimulation factor S1 subunit).
AI1804 42	7127	P05369	7128	J05262	7129	P14324	7130	85	Testis-specific farnesyl pyrophosphat e synthetase	re_AI180442 EST224188 Rattus norvegicus cDNA, 3 end /clone=RSPCX75 /clone_end=3 /gb=AI180442 /ug=Rn.2622 /len=646	Cytoplasmic.	Farnesyl pyrophosphate synthetase (FPP synthetase) (FPS) (Farnesyl/diphos phate synthetase) (Cholesterol- regulated 39 kDa protein) (CR 39)[includes: Dimethylallyltran sferase (EC 2.5.1.1);Geranyl transtra	

Table 2.

AI1804 42	7131	P05369	7132	J05262	7133	P14324	7134	85	Testis-specific farnesyl pyrophosphat e synthetase	rc_AI180442 EST224188 Rattus norvegicus cDNA, 3' end /clone=RSPCX75 /clone_end=3 /gb=AI180442 /ug=Rn.2622 /len=846	Cytoplasmic.	Farnesyl pyrophosphate synthetase (FPP synthetase) (FPS) (Farnesyl/diphos phate synthetase) (Cholesterol- regulated 39 kDa protein) (CR 39)[Includes: Dimethylallyltran sferase (EC 2.5.1.1);Geranyl transferase
AI2277 15	7135	O55081	7136	AK023320	7137	CAA536 61	7138	90.43	Retinoblastoma a-like 2 (p130) 4	rc_AI227715 EST224410 Rattus norvegicus cDNA, 3' end /clone=RBRCK56 /clone_end=3 /gb=AI227715 /ug=Rn.11020 /len=523	Nuclear.	Retinoblastoma- like protein 2 (130 kDa retinoblastoma- associated protein (PRB2) (P130) (RBR-2).
AI2279 36	7139	AAB530 41	7140	U35246	7141	NP_009 189	7142	98.75	Homo sapiens vacuolar protein sorting 45A	rc_AI227836 EST224631 Rattus norvegicus cDNA, 3' end /clone=RBRCN80 /clone_end=3 /gb=AI227836 /ug=Rn.9316 /len=605		

Table 2.

AI228407	7143	P13589	7144	AI039838	7145	Q99653	7146	94.12	pituitary adenylate cyclase activating polypeptide 1	rc_AI228407 EST225102 Rattus norvegicus cDNA, 3' end /clone=RBRCU35 /clone_end=3 /gb=AI228407 /ug=Rn.3389 /len=496	Pituitary adenylate cyclase activating polypeptide precursor (PACAP)[Contai ns: PACAP- related peptide (PRP-48); Pituitary adenylate cyclaseactivat ing polypeptide- 27 (PACAP-27) (PACAP27); Pituitary aden
AI228599	7147	P41516	7148	AK024080	7149	P11388	7150	91.3	topoisomerase (DNA) II alpha (Top2a),	rc_AI228599 EST225284 Rattus norvegicus cDNA, 3' end /clone=RBRCW95 /clone_end=3 /gb=AI228599 /ug=Rn.3877 /len=572	"DNA topoisomerase II, alpha isozyme (EC 5.99.1.3)."
AI228675	7151	O70436	7152	U68018	7153	Q15796	7154	91.46	MAD homolog 2 (Drosophila)	rc_AI228675 EST225370 Rattus norvegicus cDNA, 3' end /clone=RBRCX95 /clone_end=3 /gb=AI228675 /ug=Rn.2755 /len=545	Mothers against decapentaplegic homolog 2 (SMAD 2) (Mothers againstDPP homolog 2) (Mad-related protein 2).

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Table 2.

AI2287 38	7155	Q62658	7156	NIM_0008 01	7157	P20071	7158	98	FK506-binding protein 1 (12kD)	NM_01310 2	rc_AI228738 EST225433 Rattus norvegicus cDNA, 3 end /clone=RBRCY78 /clone_end=3 /gb=AI228738 /ug=Rn.2782 /len=495	Cytoplasmic.	FK506-binding protein (FKBP- 12) (Peptidyl- prolyl cis-trans isomerase)(EC 5.2.1.8) (PPIase) (Rotamase) (Immunophilin FKBP12).
AI2294 97	7159	No Rat Protein Found.	NIM_0045 48	7160	Q86000	7161	ESTs, Moderately similar to NADH dehydrogenas e [H.sapiens]	ESTs, Moderately similar to NADH dehydrogenas e [H.sapiens]	rc_AI229497 EST226192 Rattus norvegicus cDNA, 3 end /clone=REMCH27 /clone_end=3 /gb=AI229497 /ug=Rn.2867 /len=444				
AI2294 97	7162	No Rat Protein Found.	NIM_0045 48	7163	Q86000	7164	ESTs, Moderately similar to NADH dehydrogenas e [H.sapiens]	ESTs, Moderately similar to NADH dehydrogenas e [H.sapiens]	rc_AI229497 EST226192 Rattus norvegicus cDNA, 3 end /clone=REMCH27 /clone_end=3 /gb=AI229497 /ug=Rn.2867 /len=444				
AI2296 37	7165	NP_113 856	7166	XM_02780 9	XP_027 809	57	MYB binding protein	NIM_03166 8	rc_AI229637 EST226332 Rattus norvegicus cDNA, 3 end /clone=REMCJ75 /clone_end=3 /gb=AI229637 /ug=Rn.6881 /len=546				
AI2299 24	7167	NP_080 263	7168	XP_01002 5	XM_010 025	ESTs, Moderately similar to NB4M_HUMA N NADH- UBIQUINONE OXIDOREDU CTASE B14 SUBUNIT [H.sapiens]	ESTs, Moderately similar to NB4M_HUMA N NADH- UBIQUINONE OXIDOREDU CTASE B14 SUBUNIT [H.sapiens]	rc_AI229924 EST226619 Rattus norvegicus cDNA, 3 end /clone=REMC041 /clone_end=3 /gb=AI229924 /ug=Rn.4013 /len=489					



Table 2.

A12302 11	7169	AAA804 59	7170	AB040902	7171	Q8NZU0	7172	98.48	Rattus norvegicus voltage-gated K <sup>+</sup> channel	L48619	rc_A1230211 EST226908 Rattus norvegicus cDNA, 3' end /clone=REMC769 /clone_end=3 /gb=A1230211 /ug=Rn.10540 /len=573		
A12303 54	7173	BAA123 35	7174	D29641	7175	P42285	7176	91.88	Phosphatidic acid phosphatase	D84376	rc_A1230354 EST227049 Rattus norvegicus cDNA, 3' end /clone=REMCV50 /clone_end=3 /gb=A1230354 /ug=Rn.1944 /len=520		
A12305 72	7177	P27817	7178	A1916610	7179	I39382		98.37	Y box protein 1		rc_A1230572 EST227267 Rattus norvegicus cDNA, 3' end /clone=REMCY30 /clone_end=3 /gb=A1230572 /ug=Rn.3181 /len=317	Nuclear.	Nuclease sensitive element binding protein 1 (Y box binding protein- 1)(Y-box transcription factor) (YB-1) (CCAAT-binding transcriptionfact or 1 subunit A) (CBF-A) (Enhancer factor 1 subunit A) (EFI-A)(

Table 2.

AI2305 72	7180	P27817	7181	AI915610	7182	I39382	98.37	Y box protein 1		rc_AI230572 EST227267 Rattus norvegicus cDNA, 3' end /clone=REMCY30 /clone_end=3 /gb=AI230572 /ug=Rn.3181 /len=317	Nuclear.	Nuclease sensitive element binding protein 1 (Y box binding protein- 1)(Y-box transcription factor) (YB-1) (CCAAT-binding transcriptionfact or 1 subunit A) (CBF-A) (Enhancer factor 1 subunit A) (EF1A)(
AI2307 48	7183	P14701	7184	NIM_0032 95	7185	P13693	7186	95	lens epithelial protein	rc_AI230748 EST227443 Rattus norvegicus cDNA, 3' end /clone=REMDA73 /clone_end=3 /gb=AI230748 /ug=Rn.2132 /len=643	Cytoplasmic.	Translationally controlled tumor protein (TCTP) (p23) (21 kDapolyptide) (p21) (Lens epithelial protein).
AI2310 07	7187	BAA229 32	7188	AK026246	7189	NP_061 137	7190	89.2	CCA1 protein	rc_AI231007 EST227695 Rattus norvegicus cDNA, 3' end /clone=REMDE15 /clone_end=3 /gb=AI231007 /ug=Rn.10838 /len=527		
AI2312 13	7191	O70352	7192	NM_0022 31	7193	P27701	7194	62	kangal 1 (suppression of tumorigenicity 6), prostate (Kai1)	rc_AI231213 EST227901 Rattus norvegicus cDNA, 3' end /clone=REMDH23 /clone_end=3 /gb=AI231213 /ug=Rn.3022 /len=582	Integral membrane protein.	CD82 antigen (Metastasis suppressor homolog).

Table 2.

AI2312 13	7195	O70352	7196	NM_0022 31	7197	P27701	7198	62	kangal 1 (suppression of tumorigenicity 6), prostate (Kai1)	NM_03179 7	rc_AI231213 EST227901 Rattus norvegicus cDNA, 3 end /clone=REMDH23 /clone_end=3 /gb=AI231213 /ug=Rn.3022 /len=582	Integral membrane protein.	CD82 antigen (Metastasis suppressor homolog).
AI2312 92	7199	P14841	7200	NM_0000 99	7201	P01034	7202	72	Cysteine proteinase inhibitor cystatin C	X16957	rc_AI231292 EST227980 Rattus norvegicus cDNA, 3 end /clone=REMDI28 /clone_end=3 /gb=AI231292 /ug=Rn.956 /len=659		Cystatin C precursor (Fragment).
AI2312 92	7203	P14841	7204	NM_0000 99	7205	P01034	7206	72	Cysteine proteinase inhibitor cystatin C	X16957	rc_AI231292 EST227980 Rattus norvegicus cDNA, 3 end /clone=REMDI28 /clone_end=3 /gb=AI231292 /ug=Rn.956 /len=659		Cystatin C precursor (Fragment).
AI2313 54	7207	P49186	7208	L31951	7209	P45984	7210	93.85	Stress activated protein kinase alpha II		rc_AI231354 EST228042 Rattus norvegicus cDNA, 3 end /clone=REMDJ02 /clone_end=3 /gb=AI231354 /ug=Rn.9910 /len=521		Mitogen- activated protein kinase 9 (EC 2.7.1.-) (Stress- activated protein kinase JNK2) (c- Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).
AI2313 54	7211	P49186	7212	L31951	7213	P45984	7214	93.85	Stress activated protein kinase alpha II		rc_AI231354 EST228042 Rattus norvegicus cDNA, 3 end /clone=REMDJ02 /clone_end=3 /gb=AI231354 /ug=Rn.9910 /len=521		Mitogen- activated protein kinase 9 (EC 2.7.1.-) (Stress- activated protein kinase JNK2) (c- Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).

Table 2.

AI2313 54	7215	P49186	7216	L31951	7217	P45984	7218	93.85	Stress activated protein kinase alpha II	rc_AI231354 EST228042 Rattus norvegicus cDNA, 3' end /clone=REMDJ02 /clone_end=3 /gb=AI231354 /ug=Rn.9910 /len=521	Mitogen- activated protein kinase 9 (EC 2.7.1.-) (Stress- activated protein kinase JNK2) (c- Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).
AI2313 54	7219	P49186	7220	L31951	7221	P45984	7222	93.85	Stress activated protein kinase alpha II	rc_AI231354 EST228042 Rattus norvegicus cDNA, 3' end /clone=REMDJ02 /clone_end=3 /gb=AI231354 /ug=Rn.9910 /len=521	Mitogen- activated protein kinase 9 (EC 2.7.1.-) (Stress- activated protein kinase JNK2) (c- Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).
AI2313 54	7223	P49186	7224	L31951	7225	P45984	7226	93.85	Stress activated protein kinase alpha II	rc_AI231354 EST228042 Rattus norvegicus cDNA, 3' end /clone=REMDJ02 /clone_end=3 /gb=AI231354 /ug=Rn.9910 /len=521	Mitogen- activated protein kinase 9 (EC 2.7.1.-) (Stress- activated protein kinase JNK2) (c- Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).

Table 2.

AI2313 54	7227	P49186	7228	L31951	7229	P45984	7230	93.85	Stress activated protein kinase alpha II	rc_AI231354 EST228042 Rattus norvegicus cDNA, 3' end /clone=REMDJ02 /clone_end=3 /gb=AI231354 /ug=Rn.9910 /len=521	Mitogen- activated protein kinase 9 (EC 2.7.1.-) (Stress- activated protein kinase JNK2) (c- Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).
AI2313 54	7231	P49186	7232	L31951	7233	P45984	7234	93.85	Stress activated protein kinase alpha II	rc_AI231354 EST228042 Rattus norvegicus cDNA, 3' end /clone=REMDJ02 /clone_end=3 /gb=AI231354 /ug=Rn.9910 /len=521	Mitogen- activated protein kinase 9 (EC 2.7.1.-) (Stress- activated protein kinase JNK2) (c- Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).
AI2313 54	7235	P49186	7236	L31951	7237	P45984	7238	93.85	Stress activated protein kinase alpha II	rc_AI231354 EST228042 Rattus norvegicus cDNA, 3' end /clone=REMDJ02 /clone_end=3 /gb=AI231354 /ug=Rn.9910 /len=521	Mitogen- activated protein kinase 9 (EC 2.7.1.-) (Stress- activated protein kinase JNK2) (c- Jun N-terminal kinase 2) (SAPK-alpha) (p54-alpha).

Table 2.

AI2313 75	7239	P15978	7240	No human homolog found.	No Human Protein Found.		R. norvegicus mRNA for RT1.A3(O) alpha chain	X90374	rc_A1231375 EST228063 Rattus norvegicus cDNA, 3' end /clone=REMDJ29 /clone_end=3 /gb=A1231375 /ug=Rn.7199 /len=592	"Class I histocompatibility antigen, Non- RT1.A alpha-1 chain precursor."
AI2314 45	7241	P18395	7242	AY049788	7243	O75534	7244	84.37	Rat unr mRNA for unr protein with unknown function	Cytoplasmic. UNR protein.
AI2314 45	7245	P18395	7246	AY049788	7247	O75534	7248	84.37	Rat unr mRNA for unr protein with unknown function	Cytoplasmic. UNR protein.
AI2320 12	7248	BAB223 22	7250	BC001016	7251	P51970	7252	89.57	Homo sapiens NADH dehydrogenas e (ubiquinone) 1 alpha subcomplex, 8	

Table 2.

AI2320 78	7253	Q00918	7254	AF039843	7255	Q43597	7256	94.31	Transforming (growth factor- beta (TGF- beta) masking protein large subunit	NM_02158 7	rc_AI232078 EST228766 Rattus norvegicus cDNA, 3' end /clone=RKIBW60 /clone_end=3 /gb=AI232078 /ug=Rn.11340 /len=597	"Latent transforming growth factor beta binding protein 1 precursor(Trans forming growth factor beta-1 binding protein 1) (TGF-beta1- BP-1) (Transforming growth factor beta-1 masking protein, large subunit"
AI2320 96	7257	Q63424	7258	NM_0210 82	7259	Q16348	7260	76	Solute carrier family 15 (H+/peptide transporter), member 2	NM_03167 2	rc_AI232096 EST228784 Rattus norvegicus cDNA, 3' end /clone=RKIBW79 /clone_end=3 /gb=AI232096 /ug=Rn.2593 /len=594	"Oligopeptide transporter, kidney isoform (Peptide transporter 2)(Kidney H+/peptide cotransporter)."
AI2323 21	7261	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Mus musculus 13 days embryo liver cDNA, RIKEN		rc_AI232321 EST229009 Rattus norvegicus cDNA, 3' end /clone=RKICA22 /clone_end=3 /gb=AI232321 /ug=Rn.24630 /len=590	
AI2323 74	7262	P43278	7263	NM_0053 18	7264	P07305	7265	85	histone H1-0	NM_01257 8	rc_AI232374 EST229062 Rattus norvegicus cDNA, 3' end /clone=RKICA88 /clone_end=3 /gb=AI232374 /ug=Rn.3129 /len=609	Histone H1.0 (H1(0)) (Histone H1').
AI2323 74	7266	P43278	7267	NM_0053 18	7268	P07305	7269	85	histone H1-0	NM_01257 8	rc_AI232374 EST229062 Rattus norvegicus cDNA, 3' end /clone=RKICA88 /clone_end=3 /gb=AI232374 /ug=Rn.3129 /len=609	Histone H1.0 (H1(0)) (Histone H1').

Table 2.

AI2332 61	7270	P48508	7271	L35546	7272	P48507	7273	91.6	Glutamate- cysteine ligase (gamma- glutamylcystel ine synthetase), regulatory	NIM_01698 8	rc_AI233261 EST229949 Rattus norvegicus cDNA, 3' end /clone=RKIDC84 /clone_end=3 /gb=AI233261 /ug=Rn.2460 /len=629	Glutamate- cysteine ligase regulatory subunit (EC 6.3.2.2) (Gamma- glutamylcystein e synthetase) (Gamma-ECS) (GCS light chain)(Glutamat e-cysteine ligase modifier subunit).
AI2332 61	7274	P48508	7275	L35546	7276	P48507	7277	91.6	Glutamate- cysteine ligase (gamma- glutamylcystel ine synthetase), regulatory		rc_AI233261 EST229949 Rattus norvegicus cDNA, 3' end /clone=RKIDC84 /clone_end=3 /gb=AI233261 /ug=Rn.2460 /len=629	Glutamate- cysteine ligase regulatory subunit (EC 6.3.2.2) (Gamma- glutamylcystein e synthetase) (Gamma-ECS) (GCS light chain)(Glutamat e-cysteine ligase modifier subunit).
AI2349 50	7278	P20611	7279	BC003160	7280	P11117	7281	88	Acid phosphatase 2, lysosomal		rc_AI234950 EST231512 Rattus norvegicus cDNA, 3' end /clone=ROVCJ98 /clone_end=3 /gb=AI234950 /ug=Rn.9816 /len=501	Lysosomal. Lysosomal acid phosphatase precursor (EC 3.1.3.2) (LAP).
AI2353 58	7282	No Rat Protein Found.		J04973	7283	P22695	7284	88.05	Cytochrome bc-1 complex core P	S74321	rc_AI235358 EST231920 Rattus norvegicus cDNA, 3' end /clone=ROVCQ84 /clone_end=3 /gb=AI235358 /ug=Rn.2334 /len=554	



Table 2.

AI2357 07	7285	P35565	7286	L10284	7287	P27824	7288	84	ESTs, Highly similar to CALX RAT CALNEXIN PRECURSOR [R.norvegicus]	rc_AI235707 EST232269 Rattus norvegicus cDNA, 3 end /clone=ROVCW10 /clone_end=3 /gb=AI235707 /ug=Rn.1762 /len=471		
AI2357 07	7289	P35565	7290	L10284	7291	P27824	7292	84	ESTs, Highly similar to CALX RAT CALNEXIN PRECURSOR [R.norvegicus]	rc_AI235707 EST232269 Rattus norvegicus cDNA, 3 end /clone=ROVCW10 /clone_end=3 /gb=AI235707 /ug=Rn.1762 /len=471		
AI2357 07	7293	P35565	7294	L10284	7295	P27824	7296	84	ESTs, Highly similar to CALX RAT CALNEXIN PRECURSOR [R.norvegicus]	rc_AI235707 EST232269 Rattus norvegicus cDNA, 3 end /clone=ROVCW10 /clone_end=3 /gb=AI235707 /ug=Rn.1762 /len=471		
AI2357 07	7297	P35565	7298	L10284	7299	P27824	7300	84	ESTs, Highly similar to CALX RAT CALNEXIN PRECURSOR [R.norvegicus]	rc_AI235707 EST232269 Rattus norvegicus cDNA, 3 end /clone=ROVCW10 /clone_end=3 /gb=AI235707 /ug=Rn.1762 /len=471		
AI2357 47	7301	P04904	7302	NM_0008 47	7303	Q16772	7304	89.73	Glutathione S- transferase Ya subunit	rc_AI235747 EST232309 Rattus norvegicus cDNA, 3 end /clone=ROVCW57 /clone_end=3 /gb=AI235747 /ug=Rn.1024 /len=533	Cytoplasmic.	Glutathione S- transferase Yc-1 (EC 2.5.1.18) (Chain 2) (GST Yc1)(GST class- alpha).
AI2372 58	7305	NP_113 856	7306	XM_02780 9		XP_027 809		57	MYB binding protein (P160) 1a	rc_AI237258 EST233820 Rattus norvegicus cDNA, 3 end /clone=RPLCV74 /clone_end=3 /gb=AI237258 /ug=Rn.6881 /len=434		

Table 2.

AI2376 54	7307	No Rat Protein Found.		AW60196 3	7308	XP_002 093	7309	90.78	Rattus norvegicus clone N27 mRNA	U30789	re AI237654 EST234216 Rattus norvegicus cDNA, 3' end /clone=RPLD893 /clone_end=3 /gb=AI237654 /ug=Rn.2758 /len=689
AI6389 39	7310	No Rat Protein Found.	No human homolog found.			No Human Protein Found.			Homo sapiens, clone MGC:16797 IMAGE:38579 55		Rat mixed-tissue library Rattus norvegicus cDNA clone r200769 3', mRNA sequence [Rattus norvegicus]
AI6389 55	7311	AAK642 87	7312	AL009266	7313	O43251	7314	98.88	RNA binding motif protein 9 (RBM9),	BC002124	Rat mixed-tissue library Rattus norvegicus cDNA clone r203289 3', mRNA sequence [Rattus norvegicus]
AI6389 55	7315	AAK642 87	7316	AL009266	7317	O43251	7318	96.88	RNA binding motif protein 9 (RBM9),	BC002124	Rat mixed-tissue library Rattus norvegicus cDNA clone r203289 3', mRNA sequence [Rattus norvegicus]
AI6389 58	7319	No Rat Protein Found.	No human homolog found.			No Human Protein Found.			EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone r20189 3', mRNA sequence [Rattus norvegicus]
AI6389 60	7320	No Rat Protein Found.	AK027250	7321		No Human Protein Found.		90.18	EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone r200909 3', mRNA sequence [Rattus norvegicus]
AI6389 60	7322	No Rat Protein Found.	AK027250	7323		No Human Protein Found.		90.18	EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone r200909 3', mRNA sequence [Rattus norvegicus]
AI6389 65	7324	No Rat Protein Found.	No human homolog found.			No Human Protein Found.			EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone r204769 3', mRNA sequence [Rattus norvegicus]
AI6389 74	7325	NP_034 358	7326	NM_0020 19	7327	Q15942	7328	78	Mus musculus FMS-like tyrosine kinase 1 (Ftk1)	NM_01022 8	Rat mixed-tissue library Rattus norvegicus cDNA clone r202348 3', mRNA sequence [Rattus norvegicus]

Table 2.

AI6389 89	7329	AAD04 328	7330	XM_03173 6	XP_031 736			Mus musculus strain C57BL/6 zinc finger protein 106	AF060246	Rat mixed-tissue library Rattus norvegicus cDNA clone n01268 3, mRNA sequence [Rattus norvegicus]
AI6389 87	7331	No Rat Protein Found.		XM_04609 4	XP_046 084	7332	7333	Homo sapiens hypothetical protein FLJ20086		Rat mixed-tissue library Rattus norvegicus cDNA clone n05048 3, mRNA sequence [Rattus norvegicus]
AI6390 01	7334	No Rat Protein Found.		No human homolog found.	No Human Protein Found.			EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone n02427 3, mRNA sequence [Rattus norvegicus]
AI6390 01	7335	No Rat Protein Found.		No human homolog found.	No Human Protein Found.			EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone n02427 3, mRNA sequence [Rattus norvegicus]
AI6390 02	7336	No Rat Protein Found.		No human homolog found.	No Human Protein Found.			EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone n03287 3, mRNA sequence [Rattus norvegicus]
AI6390 19	7337	No Rat Protein Found.		No human homolog found.	No Human Protein Found.			EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone n01107 3, mRNA sequence [Rattus norvegicus]
AI6390 23	7338	AAC60 678	7339	AI346263	XP_046 406	7340	89.32	Kv3.3b=Shaw type potassium channel {alternatively spliced} (mouse)	S69381	Rat mixed-tissue library Rattus norvegicus cDNA clone n01887 3, mRNA sequence [Rattus norvegicus]
AI6390 34	7341	No Rat Protein Found.		No human homolog found.	No Human Protein Found.			Mus musculus X chromosome		Rat mixed-tissue library Rattus norvegicus cDNA clone n02766 3, mRNA sequence [Rattus norvegicus]

Table 2.

AI6390 76	7342	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	86.3	EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04025 3', mRNA sequence [Rattus norvegicus]
AI6390 79	7343	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04945 3', mRNA sequence [Rattus norvegicus]
AI6390 88	7344	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00364 3', mRNA sequence [Rattus norvegicus]
AI6390 97	7345	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01284 3', mRNA sequence [Rattus norvegicus]
AI6391 02	7346	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST (not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01844 3', mRNA sequence [Rattus norvegicus]
AI6391 14	7347	No Rat Protein Found.	AI192090	No Human Protein Found.	86.3	EST (not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx05044 3', mRNA sequence [Rattus norvegicus]
AI6391 18	7349	184505	AK000768	BAB134 17	7351	ESTs, Moderately similar to 184505 calcium- dependent actin-binding protein - rat	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02883 3', mRNA sequence [Rattus norvegicus]
AI6391 18	7352	184505	AK000768	BAB134 17	7354	ESTs, Moderately similar to 184505 calcium- dependent actin-binding protein - rat	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02883 3', mRNA sequence [Rattus norvegicus]

Table 2.

AI6391 20	7355	No Rat Protein Found.	7357	No human homolog found.	7358	No Human Protein Found.	7359	EST (not recognized)	AF060539	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02423 3, mRNA sequence [Rattus norvegicus]
AI6391 23	7356	AAC40 148	7357	AB044807	7358	BAB198 83	7359	Channel Interacting PDZ domain protein		Rat mixed-tissue library Rattus norvegicus cDNA clone rx02943 3, mRNA sequence [Rattus norvegicus]
AI6391 25	7360	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx03063 3, mRNA sequence [Rattus norvegicus]
AI6391 30	7361	BAB298 98	7362	No human homolog found.		No Human Protein Found.		Rat EST; mouse hypothetical protein from a Riken		Rat mixed-tissue library Rattus norvegicus cDNA clone rx00843 3, mRNA sequence [Rattus norvegicus]
AI6391 32	7363	No Rat Protein Found.		BG722716	7364	No Human Protein Found.	94.5	EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01263 3, mRNA sequence [Rattus norvegicus]
AI6391 39	7365	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx04483 3, mRNA sequence [Rattus norvegicus]
AI6391 39	7366	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx04483 3, mRNA sequence [Rattus norvegicus]
AI6391 39	7367	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx04483 3, mRNA sequence [Rattus norvegicus]
AI6391 39	7368	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx04483 3, mRNA sequence [Rattus norvegicus]
AI6391 51	7369	NP_032 917	7370	AF195139	7371	AAG339 41	7372	Pinin	NM_00889 1	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02802 3, mRNA sequence [Rattus norvegicus]

Table 2.

AI6391 51	7373	NP_032 917	7374	AF195139	7375	AAG339 41	7376	Phln	NM_00889 1	Rat mixed-tissue library Rattus norvegicus cDNA clone x02802 3, mRNA sequence [Rattus norvegicus]	60S ribosomal protein L13.
AI6391 53	7377	NP_031 417	7378	M82967	7379	P26436	7380	Mus musculus acrosomal vesicle protein 1	NM_00739 1	Rat mixed-tissue library Rattus norvegicus cDNA clone x03802 3, mRNA sequence [Rattus norvegicus]	
AI6391 54	7381	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone x00342 3, mRNA sequence [Rattus norvegicus]	
AI6391 57	7382	P41123	7383	AK026501	7384	P26373	7385	Deoxyribonuclease 1 (DNase1)		Rat mixed-tissue library Rattus norvegicus cDNA clone x00882 3, mRNA sequence [Rattus norvegicus]	
AI6391 62	7386	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		Mus musculus 18 days embryo cDNA, RIKEN		Rat mixed-tissue library Rattus norvegicus cDNA clone x01122 3, mRNA sequence [Rattus norvegicus]	
AI6391 65	7387	No Rat Protein Found.		XM_01715 2		XP_017 152		Homo sapiens hypothetical protein FLJ11753		Rat mixed-tissue library Rattus norvegicus cDNA clone x01762 3, mRNA sequence [Rattus norvegicus]	
AI6391 69	7388	No Rat Protein Found.		BM01590 0	7389	No Human Protein Found.	90.84	EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone x04422 3, mRNA sequence [Rattus norvegicus]	
AI6391 69	7390	No Rat Protein Found.		BM01590 0	7391	No Human Protein Found.	90.84	EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone x04422 3, mRNA sequence [Rattus norvegicus]	
AI6391 72	7392	AAC53 530	7393	Z71188	7394	Q14493	7395	Histone stem- loop binding protein	U75680	Rat mixed-tissue library Rattus norvegicus cDNA clone x05082 3, mRNA sequence [Rattus norvegicus]	
AI6391 76	7396	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone x02641 3, mRNA sequence [Rattus norvegicus]	

Table 2.

AI6391 87	7397	AAH05 702	7398	No human homolog found.	No Human Protein Found.	93.49	Rat EST; mouse hypothetical protein from a Riken	U91822	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00861 3 , mRNA sequence [Rattus norvegicus]
AI6391 88	7399	AAC05 725	7400	XM_01055 7	XP_010 557	7404	Mus musculus RNA helicase A (Ddx8)	U91822	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01621 3 , mRNA sequence [Rattus norvegicus]
AI6391 96	7401	NP_076 447	7402	AB007884	NP_056 000	7403	Rattus norvegicus collybistin I	NM_02395 7	Rat mixed-tissue library Rattus norvegicus cDNA clone rx05001 3 , mRNA sequence [Rattus norvegicus]
AI6392 09	7405	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx00680 3 , mRNA sequence [Rattus norvegicus]
AI6392 15	7408	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01040 3 , mRNA sequence [Rattus norvegicus]
AI6392 36	7407	AAF694 79	7408	No human homolog found.	No Human Protein Found.		EST (Mus musculus clone BAC126c8 Rsp29-like protein (Rsp29) and Alis splice variant 2 (Alis genes)	AF220294	Rat mixed-tissue library Rattus norvegicus cDNA clone rz00757 3 , mRNA sequence [Rattus norvegicus]
AI6392 45	7409	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx02839 3 , mRNA sequence [Rattus norvegicus]
AI6392 55	7410	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01039 3 , mRNA sequence [Rattus norvegicus]

Table 2.

AI6392 55	7411	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01039 3 , mRNA sequence [Rattus norvegicus]
AI6392 55	7412	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01039 3 , mRNA sequence [Rattus norvegicus]
AI6392 55	7413	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01039 3 , mRNA sequence [Rattus norvegicus]
AI6392 56	7414	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01019 3 , mRNA sequence [Rattus norvegicus]
AI6392 56	7415	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx04879 3 , mRNA sequence [Rattus norvegicus]
AI6392 64	7416	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx04879 3 , mRNA sequence [Rattus norvegicus]
AI6392 82	7417	NP_112 625	XM_03923 8	XP_039 236	Rattus norvegicus polymerase II	NM_03133 5	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01218 3 , mRNA sequence [Rattus norvegicus]
AI6392 85	7419	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus 18 days embryo cDNA, RIKEN		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01438 3 , mRNA sequence [Rattus norvegicus]
AI6393 15	7420	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx04457 3 , mRNA sequence [Rattus norvegicus]
AI6393 17	7421	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx04857 3 , mRNA sequence [Rattus norvegicus]



Table 2.

AI6393 18	7422	CAC10 568	7423	NM_0206 30	7424	P07849	7425	94.61	receptor tyrosine kinase:RET gene	AJ299016	Rat mixed-tissue library Rattus norvegicus cDNA clone r04977 3, mRNA sequence [Rattus norvegicus]
AI6393 20	7426	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone r02316 3, mRNA sequence [Rattus norvegicus]
AI6393 24	7427	No Rat Protein Found.		AF177339	7428	No Human Protein Found.	7429	92.59	Homo sapiens clone SP329 unknown mRNA		Rat mixed-tissue library Rattus norvegicus cDNA clone r02556 3, mRNA sequence [Rattus norvegicus]
AI6393 24	7430	No Rat Protein Found.		AF177339	7431	No Human Protein Found.	7432	92.59	Homo sapiens clone SP329 unknown mRNA		Rat mixed-tissue library Rattus norvegicus cDNA clone r02556 3, mRNA sequence [Rattus norvegicus]
AI6393 29	7433	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone r00376 3, mRNA sequence [Rattus norvegicus]
AI6393 36	7434	NP_061 229	7435	BG190460	7436	No Human Protein Found.		88.46	Mus musculus zinc finger protein 326 (Zfp326)	NM_01875 9	Rat mixed-tissue library Rattus norvegicus cDNA clone r01356 3, mRNA sequence [Rattus norvegicus]
AI6393 42	7437	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Mus musculus 10 days embryo cDNA, RIKEN		Rat mixed-tissue library Rattus norvegicus cDNA clone r04056 3, mRNA sequence [Rattus norvegicus]
AI6393 43	7438	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone r04036 3, mRNA sequence [Rattus norvegicus]
AI6393 47	7439	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone r04486 3, mRNA sequence [Rattus norvegicus]

Table 2.

AI6393 65	7440	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx03935 3, mRNA sequence [Rattus norvegicus]
AI6393 90	7441	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02134 3, mRNA sequence [Rattus norvegicus]
AI6393 91	7442	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02754 3, mRNA sequence [Rattus norvegicus]
AI6393 93	7443	No Rat Protein Found.	AF021351	7444	O14802	7445	92	ESTs, Highly similar to RPC1_HUMA N DNA- DIRECTED RNA POLYMERAS E III LARGEST SUBUNIT [H.sepiens]
AI6394 10	7446	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			Mus musculus adult male lung cDNA, RIKEN	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04114 3, mRNA sequence [Rattus norvegicus]
AI6394 10	7447	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			Mus musculus adult male lung cDNA, RIKEN	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04114 3, mRNA sequence [Rattus norvegicus]
AI6394 25	7448	No Rat Protein Found.	BE792880	7449			EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00313 3, mRNA sequence [Rattus norvegicus]
AI6394 25	7450	No Rat Protein Found.	BE792880	7451			EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00313 3, mRNA sequence [Rattus norvegicus]

Table 2.

AI6394 27	7452	No Rat Protein Found.	7452	No human homolog found.	No Human Protein Found.			EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx00133 3, mRNA sequence [Rattus norvegicus]
AI6394 27	7453	No Rat Protein Found.		No human homolog found.	No Human Protein Found.			EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx00133 3, mRNA sequence [Rattus norvegicus]
AI6394 34	7454	No Rat Protein Found.	7455	AW60352 1	No Human Protein Found.	95.52		EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx04173 3, mRNA sequence [Rattus norvegicus]
AI6394 38	7456	AAK842 14	7457	AY033141	Q969F9	7459		Mouse Hermansky- Pudlak syndrome type 3 protein (Hps3)	AF396703	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04493 3, mRNA sequence [Rattus norvegicus]
AI6394 43	7460	No Rat Protein Found.		XM_03124 6	XP_031 246	7462		Roundabout (axon guidance receptor, Drosophila) homolog 2		Rat mixed-tissue library Rattus norvegicus cDNA clone rx05153 3, mRNA sequence [Rattus norvegicus]
AI6394 61	7463	No Rat Protein Found.		No human homolog found.	No Human Protein Found.			EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01272 3, mRNA sequence [Rattus norvegicus]
AI6394 65	7464	No Rat Protein Found.	7465	AF361946	Q969Q1	7466	91.32	EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01612 3, mRNA sequence [Rattus norvegicus]
AI6394 65	7467	No Rat Protein Found.	7468	AF361946	Q969Q1	7469	91.32	EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01612 3, mRNA sequence [Rattus norvegicus]
AI6394 71	7470	No Rat Protein Found.		No human homolog found.	No Human Protein Found.			EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx04752 3, mRNA sequence [Rattus norvegicus]

Table 2.

AI6394 71	7471	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04752 3, mRNA sequence [Rattus norvegicus]	
AI6394 74	7472	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		Mus musculus 10 days embryo cDNA, RIKEN	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04832 3, mRNA sequence [Rattus norvegicus]	
AI6394 84	7473	No Rat Protein Found.		AK000592	7474	No Human Protein Found.	7475	96.12 EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02471 3, mRNA sequence [Rattus norvegicus]	
AI6394 84	7476	No Rat Protein Found.		AK000592	7477	No Human Protein Found.	7478	96.12 EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02471 3, mRNA sequence [Rattus norvegicus]	
AI6394 88	7479	AAA911 67	7480	NM_0023 92	7481	Q8UMT 8	7482	68 Mdm2 (mouse double minute 2)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02811 3, mRNA sequence [Rattus norvegicus]	
AI6394 90	7483	No Rat Protein Found.		XM_03142 3		XP_031 423		Homo sapiens PHD zinc finger transcription factor (PF1)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02931 3, mRNA sequence [Rattus norvegicus]	
AI6394 94	7484	P11345	7485	X06409	7486	P04049	7487	95.42 Mus musculus Makorin RING zinc-finger protein 2	Rat mixed-tissue library Rattus norvegicus cDNA clone rx03981 3, mRNA sequence [Rattus norvegicus]	RAF proto- oncogene serine/threonine- protein kinase (EC 2.7.1.- ) (RAF-1) (C- RAF).
AI6394 88	7488	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00871 3, mRNA sequence [Rattus norvegicus]	
AI6395 01	7489	No Rat Protein Found.		NM_0314 42	7490	NP_113 630	7491	Hypothetical protein DKFZp761J17 121 [Homo sapiens].	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01371 3, mRNA sequence [Rattus norvegicus]	

Table 2.

AI6395 04	7492	No Rat Protein Found.	7497	BI517972	7493	Q9BR76	7494	84.21	EST (not recognized)	AF105004	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04791 3, mRNA sequence [Rattus norvegicus]
AI6395 16	7495	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx00390 3, mRNA sequence [Rattus norvegicus]
AI6395 18	7498	AAD19 908	7497	Z49199	7498	P52434	7499	91.2	ESTs, Highly similar to RPB8_HUMA N DNA- DIRECTED RNA POLYMERAS ES I, II, AND III 17.1 KD POLYPEPTID E		Rat mixed-tissue library Rattus norvegicus cDNA clone rx00570 3, mRNA sequence [Rattus norvegicus]
AI6395 20	7500	No Rat Protein Found.		AI919101	7501	No Human Protein Found.		88.69	EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01210 3, mRNA sequence [Rattus norvegicus]
AI6395 25	7502	AAK686 36	7503	XM_04361 2		XP_043 612		67	adiponutrin	AY037763	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01430 3, mRNA sequence [Rattus norvegicus]
AI6395 34	7504	CAA31 389	7505	X57748	7506	P27918	7507	87.04	Mouse mRNA for properdin	X12905	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02081 3, mRNA sequence [Rattus norvegicus]
AI6395 34	7508	CAA31 389	7509	X57748	7510	P27918	7511	87.04	Properdin	X12905	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02081 3, mRNA sequence [Rattus norvegicus]
AI6395 34	7512	CAA31 389	7513	X57748	7514	P27918	7515	87.04	Mouse mRNA for properdin	X12905	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02081 3, mRNA sequence [Rattus norvegicus]
AI6395 34	7516	CAA31 389	7517	X57748	7518	P27918	7519	87.04	Properdin	X12905	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02081 3, mRNA sequence [Rattus norvegicus]
H31217	7520	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognized)		re_H31217 EST105044 Rattus norvegicus cDNA, 3' end /clone=RPCAF34 /clone_end=3 /gb=H31217 /gi=976834 /ug=Rn.7213 /len=373

Table 2.

H31342	7521	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	rc_H31342 EST105284 Rattus norvegicus cDNA, 3' end /clone=RPCAH74 /clone_end=3 /gb=H31342 /gi=976759 /ug=Rn.14563 /len=362
H31418	7522	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus adult male testis cDNA, RIKEN	rc_H31418 EST105434 Rattus norvegicus cDNA, 3' end /clone=RPCAJ31 /clone_end=3 /gb=H31418 /gi=976835 /ug=Rn.21416 /len=341
H31479	7523	No Rat Protein Found.	AL080181	7524 AAF690 29	98.41 Nectin-like protein 2	rc_H31479 EST105544 Rattus norvegicus cDNA, 3' end /clone=RPCAL22 /clone_end=3 /gb=H31479 /gi=976898 /ug=Rn.14570 /len=375
H31479	7528	No Rat Protein Found.	AL080181	7527 AAF690 29	98.41 Nectin-like protein 2	rc_H31479 EST105544 Rattus norvegicus cDNA, 3' end /clone=RPCAL22 /clone_end=3 /gb=H31479 /gi=976898 /ug=Rn.14570 /len=375
H31550	7529	No Rat Protein Found.	AK023265	7530 No Human Protein Found.	88.77 Homo sapiens BAC clone RP11-152F13 from 15	rc_H31550 EST105682 Rattus norvegicus cDNA, 3' end /clone=RPCAP82 /clone_end=3 /gb=H31550 /gi=976967 /ug=Rn.14572 /len=360
H31588	7532	No Rat Protein Found.	AA947174	7533 No Human Protein Found.	92.74 Mus musculus adult male stomach cDNA, RIKEN	rc_H31588 EST105764 Rattus norvegicus cDNA, 3' end /clone=RPCAR49 /clone_end=3 /gb=H31588 /gi=977005 /ug=Rn.25645 /len=343
H31590	7534	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	rc_H31590 EST105787 Rattus norvegicus cDNA, 3' end /clone=RPCAR52 /clone_end=3 /gb=H31590 /gi=977007 /ug=Rn.14574 /len=498
H31665	7535	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus adult male stomach cDNA, RIKEN	rc_H31665 EST105952 Rattus norvegicus cDNA, 3' end /clone=RPCAV66 /clone_end=3 /gb=H31665 /gi=977062 /ug=Rn.23735 /len=349
H31695	7536	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST (not recognized)	rc_H31695 EST106010 Rattus norvegicus cDNA, 3' end /clone=RPCAW36 /clone_end=3 /gb=H31695 /gi=977112 /ug=Rn.14583 /len=340

Table 2.

H31802	7537	S12207	No human homolog found.	No Human Protein Found.	91.27	EST, Moderately similar to S12207 hypothetical protein [M.musculus]	rc_H31802 EST106213 Rattus norvegicus cDNA, 3' end /clone=RPCAY40 /clone_end=3 /gb=H31802 /gi=977219 /ug=Rn.14594 /len=518
H31887	7538	No Rat Protein Found.	AK024220	No Human Protein Found.	7540		rc_H31887 EST106421 Rattus norvegicus cDNA, 3' end /clone=RPCBC38 /clone_end=3 /gb=H31887 /gi=977304 /ug=Rn.14601 /len=445
H31887	7541	No Rat Protein Found.	AA033555	No Human Protein Found.	7542	EST (not recognized)	rc_H31887 EST106437 Rattus norvegicus cDNA, 3' end /clone=RPCBC56 /clone_end=3 /gb=H31887 /gi=977314 /ug=Rn.21418 /len=373
H31914	7543	P13383	M60858	P19338	7546	Nucleolin	rc_H31914 EST106462 Rattus norvegicus cDNA, 3' end /clone=RPCBC88 /clone_end=3 /gb=H31914 /gi=977331 /ug=Rn.23826 /len=397
H31955	7547	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	rc_H31955 EST106538 Rattus norvegicus cDNA, 3' end /clone=RPCBD66 /clone_end=3 /gb=H31955 /gi=977372 /ug=Rn.14604 /len=270
H31964	7548	No Rat Protein Found.	AK025590	No Human Protein Found.	89.32	EST (not recognized)	rc_H31964 EST106549 Rattus norvegicus cDNA, 3' end /clone=RPCBD78 /clone_end=3 /gb=H31964 /gi=977381 /ug=Rn.14605 /len=219
H31982	7550	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Rattus norvegicus clone RP31-223K12	rc_H31982 EST106584 Rattus norvegicus cDNA, 3' end /clone=RPCBE17 /clone_end=3 /gb=H31982 /gi=977399 /ug=Rn.7138 /len=363
H31990	7551	No Rat Protein Found.	AW016287	No Human Protein Found.	7552	EST(not recognised)	rc_H31990 EST106597 Rattus norvegicus cDNA, 3' end /clone=RPCBE27 /clone_end=3 /gb=H31990 /gi=977407 /ug=Rn.22864 /len=367
H32977	7553	BAB25661	XM_044794	XP_044794		EST (hypothetical proteins)	rc_H32977 EST106553 Rattus norvegicus cDNA, 3' end /clone=RPNAB17 /clone_end=3 /gb=H32977 /gi=978394 /ug=Rn.14617 /len=396

Table 2.

H33086	7555	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus, Similar to protein kinase, cAMP dependent regulatory, type I beta, clone MGC:18526 IMAGE:36747 51	rc_H33086 EST108750 Rattus norvegicus cDNA, 3 end /clone=RPNAG73 /clone_end=3 /gb=H33086 /gi=978503 /ug=Rn.14623 /len=347
H33101	7556	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	rc_H33101 EST108789 Rattus norvegicus cDNA, 3 end /clone=RPNAH27 /clone_end=3 /gb=H33101 /gi=978518 /ug=Rn.9269 /len=351
H33219	7557	No Rat Protein Found.	XM_002656	XP_002656	Hypothetical protein FLJ20080 (Human)	rc_H33219 EST109005 Rattus norvegicus cDNA, 3 end /clone=RPNAJ82 /clone_end=3 /gb=H33219 /gi=978636 /ug=Rn.8101 /len=381
H33426	7558	NP_031824	7559 NM_001908	7560 P07858	Mus musculus cathepsin B (LOW HOMOLOGGY)	rc_H33426 EST109414 Rattus norvegicus cDNA, 3 end /clone=RPNAR42 /clone_end=3 /gb=H33426 /gi=978843 /ug=Rn.21071 /len=422
H33426	7562	NP_031824	7563 NM_001908	7564 P07858	Mus musculus cathepsin B (LOW HOMOLOGGY)	rc_H33426 EST109414 Rattus norvegicus cDNA, 3 end /clone=RPNAR42 /clone_end=3 /gb=H33426 /gi=978843 /ug=Rn.21071 /len=422
H33459	7566	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Mus musculus adult male small intestine cDNA, RIKEN	rc_H33459 EST109477 Rattus norvegicus cDNA, 3 end /clone=RPNAS05 /clone_end=3 /gb=H33459 /gi=978876 /ug=Rn.2568 /len=419



Table 2.

H33459	7567	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		Mus musculus adult male small intestine cDNA, RIKEN	rc_H33459 EST109477 Rattus norvegicus cDNA, 3' end /clone=RPNAS05 /clone_end=3 /gb=H33459 /gi=978876 /ug=Rn.2566 /len=419		
H33461	7568	AAK294 01	7569	7570	XP_018 286	92.54	Rattus norvegicus nuclear protein C7C mRNA, complete cds	AF333986	rc_H33461 EST109481 Rattus norvegicus cDNA, 3' end /clone=RPNAS13 /clone_end=3 /gb=H33461 /gi=978878 /ug=Rn.4252 /len=551
H33467	7571	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			EST(not recognised)		rc_H33467 EST109500 Rattus norvegicus cDNA, 3' end /clone=RPNAS30 /clone_end=3 /gb=H33467 /gi=978884 /ug=Rn.14641 /len=352
H33491	7572	Q8JJ46	7573	7574	Q15125	7575	sterol delta 8- isomerase	AF071501	rc_H33491 EST109547 Rattus norvegicus cDNA, 3' end /clone=RPNAS68 /clone_end=3 /gb=H33491 /gi=978908 /ug=Rn.19436 /len=569
H33614	7576	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			EST(not recognised)		rc_H33614 EST109780 Rattus norvegicus cDNA, 3' end /clone=ATCC-2004067 /clone_end=3 /gb=H33614 /gi=979031 /ug=Rn.14863 /len=224

"3-beta-  
hydroxysteroid-  
delta(8),delta(7)-  
isomerase (EC  
5.3.3.5)(Cholest  
enol delta-  
isomerase)  
(Delta8-delta7  
sterol  
isomerase) (D8-  
D7sterol  
isomerase)  
(Emopamil  
binding  
protein)."

Integral  
membrane  
protein.  
Endoplasmic  
reticulum.

Table 2.

H33636	7577	AA8349 38	7578	NM_0036 29	7579	Q92589	7580	Mouse p55PIK=phos phatidylinositol 3-kinase regulatory subunit	S79169	rc_H33636 EST109819 Rattus norvegicus cDNA, 3' end /clone=RPNAV07 /clone_end=3 /gb=H33636 /gi=979053 /ug=Rn.14653 /len=411
H33651	7581	No Rat Protein Found.		No human homolog found.	No	Human Protein Found.		EST109846 PC-12 cells, NGF-treated (9 days)		rc_H33651 EST109846 Rattus norvegicus cDNA, 3' end /clone=RPNAV67 /clone_end=3 /gb=H33651 /gi=979068 /ug=Rn.14654 /len=447
H33656	7582	AA751 74	7583	NM_0036 36	7584	Q13303	7585	Potassium channel beta 2 subunit	U31908	rc_H33656 EST109855 Rattus norvegicus cDNA, 3' end /clone=RPNAV84 /clone_end=3 /gb=H33656 /gi=979073 /ug=Rn.14656 /len=360
H33660	7586	No Rat Protein Found.		AK058044	7587	No	7588	EST (not recognised)		rc_H33660 EST109859 Rattus norvegicus cDNA, 3' end /clone=RPNAV03 /clone_end=3 /gb=H33660 /gi=979077 /ug=Rn.3331 /len=389
S45392	7589	AA8233 69	7590	NM_0073 65	7591	P08238	7592	heat shock protein 90	AI008074	S45392 heat shock protein 90 [rats, brain, mRNA, 2524 nt]
S45812	7593	190315 9A		M88840	7594	P21397	7595	ESTs, Highly similar to 1803159A monoamine oxidase A [R.norvegicus]		S45812 monoamine oxidase A [rats, liver, mRNA Partial, 2104 nt]
S46785	7596	P35859	7597	M86826	7598	P36858	7599	Rattus norvegicus Insulin-like growth factor binding protein complex acid- labile subunit gene, complete cds		S46785 Insulin-like growth factor binding protein complex acid-labile subunit [rats, liver, mRNA, 2190 nt]

Table 2.

S47609	7600	AAA118 88	7601	S46950	7602	P29274	7603	74	A2 adenosine receptor	S47609 A2 adenosine receptor [rats, striatum, mRNA, 2141 nt]
S50879	7604	AAB245 86	7605	NM_0006 65	7606	P22303	7607	82	Acetylcholine terase T subunit	S50879 acetylcholinesterase T subunit [rats, mRNA Partial, 2066 nt]
S50879	7608	AAB245 86	7609	NM_0006 65	7610	P22303	7611	82	Acetylcholine terase T subunit	S50879 acetylcholinesterase T subunit [rats, mRNA Partial, 2066 nt]
S50879	7612	AAB245 86	7613	NM_0006 65	7614	P22303	7615	82	Acetylcholine terase T subunit	S50879 acetylcholinesterase T subunit [rats, mRNA Partial, 2066 nt]
S50879	7616	AAB245 86	7617	NM_0006 65	7618	P22303	7619	82	Acetylcholine terase T subunit	S50879 acetylcholinesterase T subunit [rats, mRNA Partial, 2066 nt]
S54008	7620	Q04589	7621	M37722	7622	P11362	7623	97	FGF receptor- 1	S54008 fibroblast growth factor receptor 1 beta-isoform [Rattus norvegicus=Norway rat, Sprague-Dawley, kidneys, mRNA, 2520 nt] /cds=(300,2489) /gb=S54008 /gi=264804 /lug=Rn.9797 /len=2520
S55427	7624	AAB253 74	7625	S61788	7626	Q01453	7627	78	Myelin protein SR13=growth- arrest-specific Gas-3 homolog	S55427 myelin protein SR13=growth-arrest- specific Gas-3 homolog [rats, sciatic nerve, mRNA, 1736 nt]
S56141	7628	AAA417 29	7629	XM_05259 6		XP_052 586		83	orphan transporter v7- 3.	S56141 sodium-dependent neurotransmitter transporter (clone vta 1732) [rats, Sprague Dawley, ventral mldbrain, mRNA, 3208 nt]
S56508	7630	AAB198 09	7631	XM_02911 1		XP_029 111		92	Phosphatidylin ositol 4-kinase	S56508 phosphatidylinositol 4-kinase [rats, brain, mRNA, 2573 nt]
S56937	7632	AAA423 12	7633	NM_0190 93	7634	NP_061 966	7635	78	bilirubin UDP- glucuronosyltr ansferase	S56937 3-methylcholanthrene-inducible UDP- glucuronosyltransferase [rats, mRNA, 603 nt]

Type I  
membrane  
protein.

Basic fibroblast  
growth factor  
receptor 1  
precursor (EC  
2.7.1.112)(FGF  
R-1) (bFGF-R)  
(MFR).

Table 2.

S58644	7636	AAB262 78	7637	No human homolog found.		No Human Protein Found.		Integrin beta 5 subunit	S58644 Integrin beta 5 subunit [rats, NRK cells, mRNA Partial, 603 nt]
S59525	7638	AAB264 20	7639	NM_0004 06	7640	P30868	7641	81	S59525 gonadotropin-releasing hormone receptor [rats, pituitary gland, mRNA, 2256 nt]
S62096	7642	AAB270 18	7643	NM_0045 81	7644	Q82696	7645	87	S62096 Rab geranylgeranyl transferase component B alpha subunit [rats, brain, mRNA, 2672 nt]
S62097	7646	AAB270 19	7647	X98001	7648	P53611	7649	95	S62097 Rab geranylgeranyl transferase component B beta subunit [rats, brain, mRNA, 1344 nt]
S63521	7650	No Rat Protein Found.		XM_04420 1		XP_044 201			S63521 glucose-regulated protein GRP78 [rats, thyroid gland, mRNA, 1343 nt]
S63521	7651	No Rat Protein Found.		XM_04420 1		XP_044 201			S63521 glucose-regulated protein GRP78 [rats, thyroid gland, mRNA, 1343 nt]
S65355	7652	AAB281 72	7653	NM_0001 15	7654	P24630	7655	86	S65355 nonselective-type endothelin receptor [rats, brain, mRNA, 2018 nt]

Table 2.

S65355	7656	AAB281 72	7657	NM_0001 15	7658	P24530	7659	86	nonselective- type endothelin receptor	S65355 nonselective-type endothelin receptor [rats, brain, mRNA, 2018 nt]
S65555	7660	AAB282 25	7661	NM_0020 61	7662	P48507	7663	92	Gamma- glutamylcystei- ne synthetase light chain	S65555 gamma-glutamylcysteine synthetase light chain [rats, kidney, mRNA, 1380 nt]
S65555	7664	AAB282 25	7665	NM_0020 61	7666	P48507	7667	92	Gamma- glutamylcystei- ne synthetase light chain	S65555 gamma-glutamylcysteine synthetase light chain [rats, kidney, mRNA, 1380 nt]
S65555	7668	AAB282 25	7669	NM_0020 61	7670	P48507	7671	92	Gamma- glutamylcystei- ne synthetase light chain	S65555 gamma-glutamylcysteine synthetase light chain [rats, kidney, mRNA, 1380 nt]
S65555	7672	AAB282 25	7673	NM_0020 61	7674	P48507	7675	92	Gamma- glutamylcystei- ne synthetase light chain	S65555 gamma-glutamylcysteine synthetase light chain [rats, kidney, mRNA, 1380 nt]
S66024	7676	AAB282 73	7677	U44836	7678	AAB037 51	7679	85	transcriptional repressor CREM	S66024 transcriptional repressor CREM [rats, pineal gland, mRNA, 436 nt]
S66024	7680	AAB282 73	7681	U44836	7682	AAB037 51	7683	85	transcriptional repressor CREM	S66024 transcriptional repressor CREM [rats, pineal gland, mRNA, 436 nt]
S66184	7684	NP_058 757	7685	NM_0023 17	7686	P28300	7687	72	Rattus norvegicus Lysyl oxidase (Lox), mRNA	S66184 lysyl oxidase (3' region) [rats, fibroblasts, mRNA Partial, 263 nt]
S68809	7688	AAB205 39	7689	NM_0062 71	7690	P23267	7691	90	Rattus sp. S100 alpha mRNA, partial cde	S68809 S100 alpha [rats, kidney, mRNA Partial, 433 nt]

NM\_01706  
1

Table 2.

Accession	Gene	Protein	XP_049	XM_049	RefSeq	NCBI	Ensembl	UniProt	RefSeq	NCBI	Ensembl	UniProt
S69316	GRP94	GRP94	XP_049131	XM_049131	7693	AAH10445	7692	AAH10445	7693	AAH10445	7692	AAH10445
S69329	Grp94	Grp94	XP_034342	XM_034342	7695	AAH10445	7694	AAH10445	7695	AAH10445	7694	AAH10445
S69329	Grp94	Grp94	XP_034342	XM_034342	7697	AAH10445	7696	AAH10445	7697	AAH10445	7696	AAH10445
S70011	Grp94	Grp94	Q9BWM7	NM_030971	7699	AAH10445	7698	AAH10445	7699	AAH10445	7698	AAH10445
S70011	Grp94	Grp94	Q9BWM7	NM_030971	7703	AAH10445	7702	AAH10445	7703	AAH10445	7702	AAH10445
S70803	Grp94	Grp94	No Human Protein Found.	No human homolog found.	7707	AAH10445	7706	AAH10445	7707	AAH10445	7706	AAH10445
S70803	Grp94	Grp94	No Human Protein Found.	No human homolog found.	7709	AAH10445	7708	AAH10445	7709	AAH10445	7708	AAH10445
S70803	Grp94	Grp94	No Human Protein Found.	No human homolog found.	7711	AAH10445	7710	AAH10445	7711	AAH10445	7710	AAH10445
S70803	Grp94	Grp94	No Human Protein Found.	No human homolog found.	7713	AAH10445	7712	AAH10445	7713	AAH10445	7712	AAH10445
S71570	Grp94	Grp94	XP_044348	XM_044348	7715	AAH10445	7714	AAH10445	7715	AAH10445	7714	AAH10445

Table 2.

S71570	7716	AAB306 70	7717	XM_04434 8	XP_044 348	97	Ca2+/calmodu lin-dependent protein kinase II isoform gamma-b	S71570 Ca2+/calmodulin-dependent protein kinase II isoform gamma-b [rats, aorta smooth muscle, mRNA Partial, 1764 nt]
S72407	7718	AAC62 165	7719	XM_01138 7	XP_011 387	7721	laminin-2 alpha2 chain	S72407 laminin M subunit [rats, lipocytes, liver, Sprague-Dawley, mRNA Partial, 444 nt]
S73007	7722	AAB206 88	7723	NM_0003 45	P37840	7725	synuclein SYN1	S73007 synuclein SYN1 (alternatively spliced) [rats, mRNA, 695 nt]
S73424	7728	AAB323 92	7727	NM_0024 15	P14174	7729	MIF=macroph age migration inhibitory factor	S73424 MIF=macrophage migration inhibitory factor [rats, liver, mRNA, 525 nt]
S74572	7730	AAB334 30	7731	XM_03087 8	XP_030 878	94	Mg2+ dependent protein phosphatase beta isoform (alternatively spliced)	S74572 Mg2+ dependent protein phosphatase beta isoform (alternatively spliced) [rats, brain, mRNA, 1503 nt]
S74572	7732	AAB334 30	7733	XM_03087 8	XP_030 878	94	Mg2+ dependent protein phosphatase beta isoform	S74572 Mg2+ dependent protein phosphatase beta isoform (alternatively spliced) [rats, brain, mRNA, 1503 nt]
S74572	7734	AAB334 30	7735	XM_03087 8	XP_030 878	94	Mg2+ dependent protein phosphatase beta isoform (alternatively spliced)	S74572 Mg2+ dependent protein phosphatase beta isoform (alternatively spliced) [rats, brain, mRNA, 1503 nt]
S74572	7736	AAB334 30	7737	XM_03087 8	XP_030 878	94	Mg2+ dependent protein phosphatase beta isoform	S74572 Mg2+ dependent protein phosphatase beta isoform (alternatively spliced) [rats, brain, mRNA, 1503 nt]

Table 2.

S74907	7738	AAB327 31	7739	XM_006578 8	7740	XP_006578 578	7741	82	PP1M M110=protein phosphatase 1M 110 kda regulatory subunit	S74907 PP1M M110=protein phosphatase 1M 110 kda regulatory subunit [rats, aorta, mRNA, 3300 nt]
S75359	7742	AAB338 65	7743	NM_004329 29	7744	P36894	7745	95	Bone morphogenetic c protein type IA receptor	S75359 bone morphogenetic protein type IA receptor [rats, mRNA, 3167 nt]
S75359	7746	AAB338 65	7747	NM_004329 29	7748	P36894	7749	95	Bone morphogenetic c protein type IA receptor	S75359 bone morphogenetic protein type IA receptor [rats, mRNA, 3167 nt]
S75435	7750	AAB325 20	7751	M16768	7752	AAA611 10	7753	46	TCR gamma C4L=T-cell receptor gamma chain	S75435 TCR gamma C4L=T-cell receptor gamma chain (clone RG4) [rats, thymic lymphoma cell line cFTL53, mRNA, 1483 nt]
S75435	7754	AAB325 20	7755	X72500	7756	CAA511 65	7757	46	TCR gamma C4L=T-cell receptor gamma chain	S75435 TCR gamma C4L=T-cell receptor gamma chain (clone RG4) [rats, thymic lymphoma cell line cFTL53, mRNA, 1483 nt]
S75997	7758	AAB333 84	7759	NM_016553 53	7760	P37198	7761	74	Nucleoporin p62 homolog	S75997 nucleoporin p62 homolog (inverted repeats) [rats, Sprague-Dawley, testis, mRNA Partial, 1134 nt]
S76742	7762	AAB328 08	7763	NM_020208 08	7764	NP_064593	7765	84	neurotransmitter transporter rB21a	S76742 neurotransmitter transporter rB21a [rats, brain, mRNA, 1950 nt]
S76758	7766	No Rat Protein Found.		AB038670	7767	BAB55545	7768		BDNF=brain- derived neurotrophic factor (alternatively spliced)	S76758 BDNF=brain-derived neurotrophic factor (alternatively spliced) [rats, brain, mRNA Partial, 711 nt]



Table 2.

S77532	7769	AAB211 03	7770	M31222	7771	P15923	7772	70	rE12=helix- loop-helix transcription factor E12 homolog	S77532 rE12=helix-loop-helix transcription factor E12 homolog [rats, mRNA Partial, 960 nt]
S77858	7773	AAB341 26	7774	M22919	7775	AAA598 93	7776	99	Non-muscle myosin alkali light chain	S77858 non-muscle myosin alkali light chain [rats, Sprague-Dawley, new-born, heart ventricle, mRNA, 613 nt]
S77900	7777	AAB341 27	7778	XM_00950 1	7779	XP_009 501	7780	98	myosin regulatory light chain isoform C; myosin RLC isoform C	S77900 myosin regulatory light chain isoform C [rats, Sprague-Dawley, new-born, heart ventricle, mRNA, 1008 nt]
S77900	7781	AAB341 27	7782	XM_00950 1	7783	XP_009 501	7784	98	myosin regulatory light chain isoform C; myosin RLC isoform C	S77900 myosin regulatory light chain isoform C [rats, Sprague-Dawley, new-born, heart ventricle, mRNA, 1008 nt]
S78217	7785	AAB343 34	7786	NM_0027 10	7787	P36873	7788	100	protein phosphatase 1 gamma 1	S78217 protein phosphatase 1 gamma 1 [rats, striatum, mRNA Partial, 1508 nt]
S78218	7789	AAB343 35	7790	NM_0027 09	7791	P37140	7792	100	Protein phosphatase 1 beta	S78218 protein phosphatase 1 beta [rats, striatum, mRNA, 2668 nt]
S78218	7793	AAB343 35	7794	NM_0027 09	7795	P37140	7796	100	Protein phosphatase 1 beta	S78218 protein phosphatase 1 beta [rats, striatum, mRNA, 2668 nt]
S78218	7797	AAB343 35	7798	NM_0027 09	7799	P37140	7800	100	Protein phosphatase 1 beta	S78218 protein phosphatase 1 beta [rats, striatum, mRNA, 2668 nt]
S78218	7801	AAB343 35	7802	NM_0027 09	7803	P37140	7804	100	Protein phosphatase 1 beta	S78218 protein phosphatase 1 beta [rats, striatum, mRNA, 2668 nt]
S78556	7805	AAB349 82	7806	NM_0041 34	7807	P38646	7808	93	75 kda glucose regulated protein	S78556 grp75=75 kda glucose regulated protein [rats, Sprague-Dawley, brain, mRNA, 3001 nt]

Table 2.

S78556	7809	AAB349 82	7810	NM_0041 34	7811	P38646	7812	93	75 kda glucose regulated protein	S78556 grp75=75 kda glucose regulated protein [rats, Sprague-Dawley, brain, mRNA, 3001 nt]
S78556	7813	AAB349 82	7814	NM_0041 34	7815	P38646	7816	93	75 kda glucose regulated protein	S78556 grp75=75 kda glucose regulated protein [rats, Sprague-Dawley, brain, mRNA, 3001 nt]
S78556	7817	AAB349 82	7818	NM_0041 34	7819	P38646	7820	93	75 kda glucose regulated protein	S78556 grp75=75 kda glucose regulated protein [rats, Sprague-Dawley, brain, mRNA, 3001 nt]
S78556	7821	AAB349 82	7822	NM_0041 34	7823	P38646	7824	93	75 kda glucose regulated protein	S78556 grp75=75 kda glucose regulated protein [rats, Sprague-Dawley, brain, mRNA, 3001 nt]
S78556	7825	AAB349 82	7826	NM_0041 34	7827	P38646	7828	93	75 kda glucose regulated protein	S78556 grp75=75 kda glucose regulated protein [rats, Sprague-Dawley, brain, mRNA, 3001 nt]
S78304	7829	AAB212 98	7830	No human homolog found.		No Human Protein Found.			Rattus sp. cytochrome oxidase subunit I mRNA, partial cds, and tRNA Ser gene, complete sequence; mitochondrial genes for mitochondrial products	S78304 cytochrome oxidase subunit I, Ser- tRNA [rats, Sertoli cells, mRNA Mitochondrial, 987 nt]

Table 2.

S78523	7831	P30836	7832	X1M_04444	7835	XP_044441	75	Lymphocyte membrane protein A.11	S78523 lymphocyte membrane protein A.11 (clone RS-2) [rats, Sprague-Dawley, thoracic duct lymphocytes (TDL), mRNA, 1580 nt]	Type I membrane protein.	L-selectin precursor (Lymph node homing receptor) (Leukocyte adhesion molecule-1) (LAM-1) (LY-22) (Lymphocyte surface MEL-14 antigen)(Leukocyte-endothelial cell adhesion molecule 1) (LECAM1) (CD62L).
S80376	7833	P38406	7834	L10665	7835	P38405	7836	G alpha olf=GTP-binding protein Golf alpha subunit (alternatively spliced, clone 23)	S80376 G alpha olf=GTP-binding protein Golf alpha subunit (alternatively spliced, clone 23) [rats, brain, Sprague-Dawley, mRNA Partial, 1924 nt]		
S81497	7837	AAB360 <sub>43</sub>	7838	U08464	7839	P38571	72	Lysosomal acid lipase	S81497 lysosomal acid lipase=intracellular hydrolase [rats, Wolman, liver, mRNA, 3144 nt]		
S81497	7841	AAB360 <sub>43</sub>	7842	U08464	7843	P38571	72	Lysosomal acid lipase=intracellular hydrolase	S81497 lysosomal acid lipase=intracellular hydrolase [rats, Wolman, liver, mRNA, 3144 nt]		
S81497	7845	AAB360 <sub>43</sub>	7846	U08464	7847	P38571	72	Lysosomal acid lipase	S81497 lysosomal acid lipase=intracellular hydrolase [rats, Wolman, liver, mRNA, 3144 nt]		

Table 2.

S81497	7849	AAB360 43	7850	U08464	7851	P38571	7852	72	Lysosomal acid lipase	AA874784	S81497 lysosomal acid lipase=intracellular hydrolase [rats, Wolman, liver, mRNA, 3144 nt]
S81497	7853	AAB360 43	7854	U08464	7855	P38571	7856	72	Lysosomal acid lipase=intracel lular hydrolase		S81497 lysosomal acid lipase=intracellular hydrolase [rats, Wolman, liver, mRNA, 3144 nt]
S81497	7857	AAB360 43	7858	U08464	7859	P38571	7860	72	Lysosomal acid lipase	AA874784	S81497 lysosomal acid lipase=intracellular hydrolase [rats, Wolman, liver, mRNA, 3144 nt]
S82911	7861	AAB468 39	7862	NM_0227 16	7863	P54821	7864	95	rHox $\alpha$ protein		S82911 rHox $\alpha$ protein [rats, ROS 17/2.8 osteosarcoma cell line, mRNA, 1375 nt]
S83194	7865	AAB469 10	7866	NM_0322 94	7867	NP_115 670	7868	88	Ca2+/calmodu lin-dependent protein kinase IV kinase isoform		S83194 Ca2+/calmodulin-dependent protein kinase IV kinase isoform [rats, brain, mRNA, 3428 nt]
S83194	7869	AAB469 10	7870	NM_0322 94	7871	NP_115 670	7872	88	Ca2+/calmodu lin-dependent protein kinase IV kinase isoform		S83194 Ca2+/calmodulin-dependent protein kinase IV kinase isoform [rats, brain, mRNA, 3429 nt]
S83279	7873	AAB495 19	7874	NM_0004 14	7875	P51659	7876	83	HSD IV=peroxisom e proliferator- inducible gene		S83279 HSD IV=peroxisome proliferator- inducible gene [rats, F344, liver, mRNA Partial, 2480 nt]
S83279	7877	AAB495 19	7878	NM_0004 14	7879	P51659	7880	83	HSD IV=peroxisom e proliferator- inducible gene		S83279 HSD IV=peroxisome proliferator- inducible gene [rats, F344, liver, mRNA Partial, 2480 nt]

Table 2.

S83320	7881	AAB507 33	7882	NM_0219 52	7883	P26378	7884	91	HuD=neurosp ecific RNA binding protein	S83320 r-HuD=HuD [rats, hypothalamus, mRNA, 1444 nt]
S83320	7885	AAB507 33	7886	NM_0219 52	7887	P26378	7888	91	HuD=neurosp ecific RNA binding protein	S83320 r-HuD=HuD [rats, hypothalamus, mRNA, 1444 nt]
S83320	7889	AAB507 33	7890	NM_0219 52	7891	P26378	7892	91	HuD=neurosp ecific RNA binding protein	S83320 r-HuD=HuD [rats, hypothalamus, mRNA, 1444 nt]
S83320	7893	AAB507 33	7894	NM_0219 52	7895	P26378	7896	91	HuD=neurosp ecific RNA binding protein	S83320 r-HuD=HuD [rats, hypothalamus, mRNA, 1444 nt]
S83320	7897	AAB507 33	7898	NM_0219 52	7899	P26378	7900	91	HuD=neurosp ecific RNA binding protein	S83320 r-HuD=HuD [rats, hypothalamus, mRNA, 1444 nt]
S83320	7901	AAB507 33	7902	NM_0219 52	7903	P26378	7904	91	HuD=neurosp ecific RNA binding protein	S83320 r-HuD=HuD [rats, hypothalamus, mRNA, 1444 nt]
S83358	7905	AAB722 03	7906	L13616	7907	Q05397	7908	92	focal adhesion kinase (FAK)	S83358 focal adhesion kinase/pp125FAK/FAK + {alternatively spliced} [rats, striatum, mRNA, 4575 nt]
S85184	7909	AAB215 16	7910	NM_0019 12	7911	P07711	7912	75	Cyclic Protein- 2 (CP-2) mRNA, partial cds	S85184 Cyclic Protein-2=cathepsin L proenzyme [rats, Sertoli cells, mRNA, 1790 nt]
S85184	7913	AAB215 16	7914	NM_0019 12	7915	P07711	7916	75	Cyclic Protein- 2 (CP-2) mRNA, partial cds	S85184 Cyclic Protein-2=cathepsin L proenzyme [rats, Sertoli cells, mRNA, 1790 nt]
S90449	7917	AAB218 98	7918	XM_03087 8		XP_030 878			Protein phosphatase 2C isoform, PP2C2	S90449 protein phosphatase 2C isoform [rats, liver, mRNA, 1950 nt]
U01227	7919	AAAS21 82	7920	NM_0008 69	7921	P46098	7922	83	5HT3 receptor	U01227 RSU01227 Rattus sp. 5HT3 receptor subunit mRNA, partial cds

Table 2.

U01227	7923	AAA521 82	7824	NM_0008 69	7925	P46088	7926	83	5HT3 receptor	U01227 RSU01227 Rattus sp. 5HT3 receptor subunit mRNA, partial cds	Cytoplasmic.	Arylamine N- acetyltransferase 1 (EC 2.3.1.5) (Arylamide acetylase 1)(N- acetyltransferase type 1) (NAT- 1) (AT-1).
U01344	7927	P50297	7828	U80835	7929	Q224537 6	7930	76	Rattus norvegicus clone A-2 arylamine N- acetyltransferase mRNA, complete cds	U01344 Rattus norvegicus clone A-2 arylamine N-acetyltransferase mRNA, complete cds /cds=(975,1847) /gb=U01344 /gi=788257 /ug=Rn.11112 /len=2533		
U02315	7931	P43322	7932	U02327	7933	Q12784	7934	96.92	Clone ndf04 neu differentiation factor mRNA, partial cds	U02315 Rattus norvegicus clone ndf04 neu differentiation factor mRNA, partial cds /cds=(0,694) /gb=U02315 /gi=408380 /ug=Rn.10311 /len=1043	EXISTS AS A TYPE I MEMBRANE PROTEIN AND AS A PROTEOLYTICALLY RELEASED SOLUBLE GROWTH FACTOR FORM. THE MEMBRANE- BOUND FORM DOES NOT SEEM TO BE ACTIVE.	Pro-neuregulin- 1 precursor (Pro- NRG1) [Contains: Neuregulin-1 (Neudifferentiat ion factor) (Heregulin) (HRG) (Acetylcholine receptor/inducin g activity) (ARIA) (Sensory and motor neuron-derived factor)(G



Table 2.

U02322	7947	P43322	7948	U02327	7949	Q12784	7950	96.92	Potassium channel, subfamily K, member 3 // Neu differentiation factor	U02322 Rattus norvegicus clone ndf42a neu differentiation factor mRNA, complete cds /cds=(344,2332) /gb=U02322 /gi=408394 /ug=Rn.10311 /len=2402	EXISTS AS A TYPE I MEMBRANE PROTEIN AND AS A PROTEOLYTICALLY RELEASED SOLUBLE GROWTH FACTOR. THE MEMBRANE-BOUND FORM DOES NOT SEEM TO BE ACTIVE.	Pro-neuregulin-1 precursor (Pro-NGF) [Contains: Neuregulin-1 (Neurodifferentiation factor) (Heregulin) (HRG) (Acetylcholine receptorinducible activity) (Sensory and motor neuron-derived factor)(G
U02506	7951	No Rat Protein Found.	7953	No human homolog found.	No Human Protein Found.	Rattus norvegicus clone 7 polimeric immunoglobulin receptor mRNA, 3' untranslated region microsatellite repeats	U02506UTR#1 RNU02506 Rattus norvegicus clone 7 polimeric immunoglobulin receptor mRNA, 3 untranslated region microsatellite repeats	U02522 Rattus norvegicus Mta1 (mta1) mRNA, complete cds /cds=(96,2207) /gb=U02522 /gi=595252 /ug=Rn.5840 /len=2741	Metastasis-associated protein MTA1.			



Table 2.

U03414	7956	Q62609	7957	D82343	7958	Q99784	7959	94.72	Rattus norvegicus neuronal olfactomedin-related ER localized protein (D2Sut1e) mRNA, complete cds	U03414 Rattus norvegicus neuronal olfactomedin-related ER localized protein (D2Sut1e) mRNA, complete cds /cds=(238,615) /gb=U03414 /gi=442363 /ug=Rn.11005 /len=838	Endoplasmic reticulum lumen .	Noelin precursor (Neuronal olfactomedin-related ER localized protein)(Olfacto medin 1) (Pancortin) (1B426B).
U04317	7960	AAA18480	7961	AB012701	7962	Q01638	7963	85.71	Fil-1M mRNA, complete cds /cds=(274,1974) /gb=U04317 /gi=488275 /ug=Rn.10072 /len=2065	U04317 Rattus norvegicus Fil-1M (Fil-1) mRNA, complete cds /cds=(274,1974) /gb=U04317 /gi=488275 /ug=Rn.10072 /len=2065		
U04998	7964	Q62656	7965	M83426	7966	P23471	7967	90.23	Protein tyrosine phosphatase, receptor-type, zeta polypeptide	U04998 Rattus norvegicus Sprague-Dawley phosphacan mRNA, complete cds /cds=(105,4955) /gb=U04998 /gi=461371 /ug=Rn.10088 /len=6801	Type I membrane protein.	Protein-tyrosine phosphatase zeta precursor (EC 3.1.3.48) (RPTP-zeta) (Phosphacan) (3F8 chondroitin sulfate proteoglycan) (3H1 keratansulfate proteoglycan).

Table 2.

U04998	7868	Q62656	7969	M93426	7970	P23471	7971	90.23	Protein tyrosine phosphatase, receptor-type, zeta polypeptide	U04998 Rattus norvegicus Sprague-Dawley phosphacan mRNA, complete cds /cds=(105,4955) /gb=U04998 /gi=461371 /ug=Rn.10088 /len=6801	Type I membrane protein.	Protein-tyrosine phosphatase zeta precursor (EC 3.1.3.48) (RPTP-zeta) (Phosphacan) (3F8 chondroitin sulfate proteoglycan) (3H1 keratansulfate proteoglycan).
U05013	7972	P23711	7973	D21243	7974	P30519	7975	89	Heme oxygenase-2 non-reducing isoform	U05013 Rattus norvegicus Sprague-Dawley heme oxygenase-2 non-reducing isoform gene, complete cds /cds=(177,1124) /gb=U05013 /gi=501034 /ug=Rn.10241 /len=1815		
U05013	7976	P23711	7977	D21243	7978	P30519	7979	89	Heme oxygenase-2 non-reducing isoform	U05013 Rattus norvegicus Sprague-Dawley heme oxygenase-2 non-reducing isoform gene, complete cds /cds=(177,1124) /gb=U05013 /gi=501034 /ug=Rn.10241 /len=1815		
U05014	7980	AA86838	7981	NM_004095	7982	NP_004086	7983	92	Rattus norvegicus Sprague/Dawley PHAS-I mRNA, complete cds	U05014 RNU05014 Rattus norvegicus Sprague/Dawley PHAS-I mRNA, complete cds		
U05014	7984	AA86938	7985	NM_004095	7986	NP_004086	7987	92	Rattus norvegicus Sprague/Dawley PHAS-I mRNA, complete cds	U05014 RNU05014 Rattus norvegicus Sprague/Dawley PHAS-I mRNA, complete cds		

Table 2.

U05784	7988	Q62625	7989	H28835	7990	NP_073729	7991	89.62	light chain 3 subunit of microtubule-associated proteins 1A and 1B.	U05784 Rattus norvegicus microtubule-associated proteins 1A and 1B light chain 3 subunit mRNA, complete cds /cds=(28,454) /gb=U05784 /gi=455108 /ug=Rn.883 /len=861	Microtubule-associated proteins 1A/1B light chain 3 (MAP1A/MAP1B LC3).
U06230	7992	I59618	7993	M15036	7993	P07226	7994	88.41	Protein S	U06230 Rattus norvegicus protein S mRNA, partial cds /cds=(0,1040) /gb=U06230 /gi=497116 /ug=Rn.4845 /len=1589	
U06713	7995	A53770	7996	AK025273	7997	T42700	7998	91.6	Factor-responsive smooth muscle protein	U06713 Rattus norvegicus Sprague-Dawley SM-20 mRNA, complete cds /cds=(190,1257) /gb=U06713 /gi=468477 /ug=Rn.10984 /len=2825	
U06713	7999	A53770	8000	AK025273	8001	T42700	8002	91.6	Factor-responsive smooth muscle protein	U06713 Rattus norvegicus Sprague-Dawley SM-20 mRNA, complete cds /cds=(190,1257) /gb=U06713 /gi=468477 /ug=Rn.10994 /len=2825	
U06752	8003	AAA85523	8004	AJ242542	8005	CAB85606	8008	90.1	Fisher 344 pre-sialomucin complex (pSMC) mRNA, repeat sequences 10-14, partial cds	U06752 RINMUCASGP7 Rattus norvegicus Fisher 344 pre-sialomucin complex (pSMC) mRNA, repeat sequences 10-14, partial cds	
U07181	8007	P42123	8008	BF913405	8009	NP_002291	8010	87.5	Lactate dehydrogenase-B (LDH-B)	U07181 Rattus norvegicus lactate dehydrogenase-B (LDH-B) mRNA, complete cds /cds=(25,1029) /gb=U07181 /gi=473576 /ug=Rn.1765 /len=1217	Cytoplasmic. L-lactate dehydrogenase B chain (EC 1.1.1.27) (LDH-B) (LDH heart subunit) (LDH-H).

Table 2.

U07181	8011	P42123	8012	BF913405	8013	NP_002291	8014	87.5	Lactate dehydrogenase-B (LDH-B) (LDH-B)	U07181 Rattus norvegicus lactate dehydrogenase-B (LDH-B) mRNA, complete cds /cds=(25,1029) /gb=U07181 /gi=473576 /ug=Rn.1785 /len=1217	Cytoplasmic.	L-lactate dehydrogenase B chain (EC 1.1.1.27) (LDH-B) (LDH heartsubunit) (LDH-H).
U08214	8015	AA81950	8016	XM_050405		XP_050405		91	DNA binding protein (URE-B1)	U08214 RSU08214 Rattus sp. DNA binding protein (URE-B1) mRNA, complete cds		
U08257	8017	Q01812	8018	S67803	8019	Q16099	8020	92.07	Glutamate receptor KA1 subunit	U08257 Rattus norvegicus Sprague-Dawley glutamate receptor KA1 subunit mRNA, complete cds /cds=(76,2946) /gb=U08257 /gi=475545 /ug=Rn.10049 /len=3312	Integral membrane protein.	"Glutamate receptor, ionotropic kainate 4 precursor (Glutamate receptorKA-1) (KA1)." Neuronatin.
U08290	8021	Q62649	8022	AB002392	8023	Q16517	8024	92.52	neuronatin alpha.	U08290 Rattus norvegicus neuronatin alpha mRNA, complete cds /cds=(40,285) /gb=U08290 /gi=516541 /ug=Rn.5785 /len=1178		
U08976	8025	Q62651	8026	U16860	8027	Q13011	8028	85.42	Peroxisomal enoyl hydratase-like protein	U08976 Rattus norvegicus Wistar peroxisomal enoyl hydratase-like protein (PXEL) mRNA, complete cds /cds=(10,993) /gb=U08976 /gi=478983 /ug=Rn.6148 /len=1097	MITOCHONDRIAL AND PEROXISOMAL	"Delta3,5-delta2,4-dienoyl-CoA isomerase, mitochondrial precursor (EC 5.3.3.-)." "
U09211	8029	AAA20498	8030	U09210	8031	NP_003046	8032	85.9	Vesicular acetylcholine transporter mRNA	U09211 Rattus norvegicus vesicular acetylcholine transporter mRNA, complete cds /cds=(858,2450) /gb=U09211 /gi=507745 /ug=Rn.9987 /len=2858		

Table 2.

U09228	8033	Q62655	8034	AK026674	8035	AAA603 10	8036	92.83	E-box binding factor mRNA	U09228 Rattus norvegicus New England Deaconess E-box binding factor mRNA, partial cds /cds=(0,1286) /gb=U09228 /gi=517199 /ug=Rn.10450 /len=1481	Nuclear .	Transcription factor 4 (immunoglobulin transcription factor 2) (TF- 2)(RITF-2) (SL3- 3 enhancer factor 2) (SEF- 2) (Fragment).
U09357	8037	Q62656	8038	M93426	8039	P23471	8040	90.23	receptor-type protein tyrosine phosphatase zeta/beta.	U09357 Rattus norvegicus receptor-type protein tyrosine phosphatase zeta/beta mRNA, complete cds /cds=(105,7055) /gb=U09357 /gi=487780 /ug=Rn.10088 /len=7851	Type I membrane protein.	Protein-tyrosine phosphatase zeta precursor (EC 3.1.3.48) (R PTP-zeta) (Phosphacan) (3F8 chondroitin sulfate proteoglycan) (3H1 keratansulfate proteoglycan).
U09540	8041	Q64678	8042	U03688	8043	Q16678	8044	84.64	Cytochrome P450 1b1	U09540 RNU09540 Rattus norvegicus Sprague-Dawley cytochrome P450 (CYP1B1) mRNA, complete cds	Membrane- bound. Endoplasmic reticulum.	Cytochrome P450 1B1 (EC 1.14.14.1) (CYP1B1) (P450RAP).
U09540	8045	Q64678	8046	U03688	8047	Q16678	8048	84.64	Cytochrome P450	U09540 RNU09540 Rattus norvegicus Sprague-Dawley cytochrome P450 (CYP1B1) mRNA, complete cds	Membrane- bound. Endoplasmic reticulum.	Cytochrome P450 1B1 (EC 1.14.14.1) (CYP1B1) (P450RAP).
U09540	8049	Q64678	8050	U03688	8051	Q16678	8052	84.64	Cytochrome P450 1b1	U09540 RNU09540 Rattus norvegicus Sprague-Dawley cytochrome P450 (CYP1B1) mRNA, complete cds	Membrane- bound. Endoplasmic reticulum.	Cytochrome P450 1B1 (EC 1.14.14.1) (CYP1B1) (P450RAP).

Table 2.

U09540	8053	Q64678	8054	U03688	8055	Q16678	8056	84.64	Cytochrome P450	U09540 RNU09540 Rattus norvegicus Sprague-Dawley cytochrome P450 (CYP1B1) mRNA, complete cds	Membrane-bound. Endoplasmic reticulum.	Cytochrome P450 1B1 (EC 1.14.14.1) (CYP1B1) (P450RAF).
U09551	8057	AAA532 40	8058	BC022329	8059	XP_027 193	8060	92.07	HMG-box containing protein 1	U09551 Rattus norvegicus HMG-box containing protein 1 (HBP1) mRNA, complete cds /cds=(41,1582) /gb=U09551 /gi=576448 /ug=Rn.11101 /len=2642		
U09551	8061	AAA532 40	8062	BC022329	8063	XP_027 193	8064	92.07	HMG-box containing protein 1	U09551 Rattus norvegicus HMG-box containing protein 1 (HBP1) mRNA, complete cds /cds=(41,1582) /gb=U09551 /gi=576448 /ug=Rn.11101 /len=2642		
U09793	8065	P46203	8066	NIM_0049 85	8067	P01118	8068	84	p21	U09793 Rattus norvegicus p21 (c-Ki-ras) mRNA, complete cds /cds=(0,566) /gb=U09793 /gi=495533 /ug=Rn.10007 /len=661		Transforming protein p21b (K-Ras 2B) (Ki-Ras) (c-K-ras).
U10354	8069	P48442	8070	U20760	8071	P41180	8072	89.83	Calcium-sensing receptor (hypocalcemic 1, severe neonatal hyperparathyroidism)	U10354 Rattus norvegicus kidney extracellular calcium-sensing receptor mRNA, complete cds /cds=(573,3812) /gb=U10354 /gi=607815 /ug=Rn.10019 /len=4113	Integral membrane protein.	Extracellular calcium-sensing receptor precursor (CaSR) (ParathyroidCell calcium-sensing receptor).
U10354	8073	P48442	8074	U20760	8075	P41180	8076	89.83	Calcium-sensing receptor (hypocalcemic 1, severe neonatal hyperparathyroidism)	U10354 Rattus norvegicus kidney extracellular calcium-sensing receptor mRNA, complete cds /cds=(573,3812) /gb=U10354 /gi=607815 /ug=Rn.10019 /len=4113	Integral membrane protein.	Extracellular calcium-sensing receptor precursor (CaSR) (ParathyroidCell calcium-sensing receptor).

Table 2.

U10357	8077	Q64536	8078	NM_002611	8079	Q15119	8080	91.98	pyruvate dehydrogenase kinase 2 subunit p45 (PDK2)	U10357 Rattus norvegicus pyruvate dehydrogenase kinase 2 subunit p45 (PDK2) mRNA, complete cds /cds=(98,1321) /gb=U10357 /gi=694002 /ug=Rn.11363 /len=2207	Mitochondrial matrix.	[P]Pyruvate dehydrogenase [lipoamide]] kinase isozyme 2, mitochondrial precursor (EC 2.7.1.99) (Pyruvate dehydrogenase kinase isoform 2)(PDK P45)."
U10357	8081	Q64536	8082	NM_002611	8083	Q15119	8084	91.98	pyruvate dehydrogenase kinase 2 subunit p45 (PDK2)	U10357 Rattus norvegicus pyruvate dehydrogenase kinase 2 subunit p45 (PDK2) mRNA, complete cds /cds=(98,1321) /gb=U10357 /gi=694002 /ug=Rn.11363 /len=2207	Mitochondrial matrix.	[P]Pyruvate dehydrogenase [lipoamide]] kinase isozyme 2, mitochondrial precursor (EC 2.7.1.99) (Pyruvate dehydrogenase kinase isoform 2)(PDK P45)."
U10995	8085	AA83437	8086	BG701915	8087	NP_005645	8088	99.37	orphan receptor COUP-TFI	U10995 Rattus norvegicus Wistar orphan receptor COUP-TFI mRNA, complete cds /cds=(474,1733) /gb=U10995 /gi=508761 /ug=Rn.11251 /len=2514		
U10995	8089	AA83437	8090	BG701915	8091	NP_005645	8092	99.37	orphan receptor COUP-TFI	U10995 Rattus norvegicus Wistar orphan receptor COUP-TFI mRNA, complete cds /cds=(474,1733) /gb=U10995 /gi=508761 /ug=Rn.11251 /len=2514		
U11071	8093	No Rat Protein Found.		No human homolog found.	No Human Protein Found.				Polyadenylated binding protein related protein mRNA, 3' end	U11071 RNPABPR2 Rattus norvegicus Sprague-Dawley polyadenylate-binding protein-related protein mRNA, 3' end		

Table 2.

U11419	8094	Q00960	8095	U11287	8096	Q13224	8097	91.16	glutamate receptor	U11419 Rattus norvegicus glutamate receptor subunit mRNA, complete cds /cds=(350,4798) /gb=U11419 /gi=558081 /ug=Rn.9711 /len=5259	Integral membrane protein.	Glutamate [NMDA] receptor subunit epsilon 2 precursor (N-methyl-D-aspartate receptor subtype 2B) (NR2B) (NMDAR2B).
U11681	8098	P42346	8099	AK024393	8100	CAB44738	8101	94.17	Rapamycin and FKBP12 target-1 protein (RAFT1)	U11681 Rattus norvegicus rapamycin and FKBP12 target-1 protein (RAFT1) mRNA, complete cds /cds=(63,7712) /gb=U11681 /gi=511228 /ug=Rn.11008 /len=8554		FKBP-rapamycin associated protein (FRAP) (Rapamycin target protein).
U11685	8102	Q62685	8103	BC008819	8104	Q13133	8105	92.24	Nuclear receptor subfamily 1, group H, member 3	U11685 Rattus norvegicus orphan receptor RLD-1 (rd-1) mRNA, complete cds /cds=(24,1361) /gb=U11685 /gi=555751 /ug=Rn.11209 /len=1723	Nuclear	Oxysterols receptor LXR-alpha (Liver X receptor alpha) (Nuclear orphan receptor LXR-alpha) (RLD-1).
U12568	8106	P37996	8107	BC009841	8108	P36405	8109	95.54	ADP-ribosylation factor-like protein 3	U12568 Rattus norvegicus ADP-ribosylation factor-like protein 3 (rad3) mRNA, complete cds /cds=(12,560) /gb=U12568 /gi=560005 /ug=Rn.9538 /len=783		ADP-ribosylation factor-like protein 3 (ARD3).



Table 2.

U13176	8110	P51669	8111	AF317220	8112	P51669	8113	97.42	ubc2e ubiquitin conjugating enzyme (E217kB)	U13176 Rattus norvegicus clone ubc2e ubiquitin conjugating enzyme (E217kB) mRNA, complete cds /cds=(74,517) /gb=U13176 /gi=595667 /ug=Rn.7390 /len=815	Ubiquitin- conjugating enzyme E2-17 kDa 2 (EC 6.3.2.19) (Ubiquitin- protein ligase) (Ubiquitin carrier protein) (E2(17)KB 2).
U13177	8114	P47988	8115	U39318	8116	P47988	8117	97.74	Ubiquitin- conjugating enzyme E2D 3 (homologous to yeast UBC4/5)	U13177 Rattus norvegicus clone ubc4a ubiquitin conjugating enzyme (E217kB) mRNA, complete cds /cds=(203,646) /gb=U13177 /gi=595668 /ug=Rn.8130 /len=901	Ubiquitin- conjugating enzyme E2-17 kDa 3 (EC 6.3.2.19) (Ubiquitin- protein ligase) (Ubiquitin carrier protein) (E2(17)KB 3).
U13895	8118	AAC53 589	8119	NM_0028 03	8120	P35998	8121	91	MSS1 protein	U13895 RNU13895 Rattus norvegicus MSS1 protein (MSS1) mRNA, partial cds	
U14005	8122	AAB605 15	8123	M76558	8124	Q01668	8125	85	Calcium channel alpha- 1 subunit gene	U14005exon#1 RNU14005 Rattus norvegicus calcium channel alpha-1 subunit gene, partial cds	
U14005	8126	AAB605 15	8127	M76558	8128	Q01668	8129	85	Calcium channel alpha- 1 subunit gene	U14005exon#1 RNU14005 Rattus norvegicus calcium channel alpha-1 subunit gene, partial cds	
U14398	8130	P50232	8131	X96783	8132	Q00445	8133	42	Synaptotagmin n 4	U14398 Rattus norvegicus synaptotagmin IV homolog mRNA, complete cds /cds=(267,1544) /gb=U14398 /gi=550453 /ug=Rn.11072 /len=2080	Synaptotagmin IV (SynIV).

Integral  
membrane  
protein.  
Synaptic  
vesicles.

Table 2.

U14398	8134	P50232	8135	X96783	8136	O00445	8137	42	Synaptotagmin n 4	U14398 Rattus norvegicus synaptotagmin IV homolog mRNA, complete cds /cds=(267,1544) /gb=U14398 /gi=550463 /ug=Rn.11072 /len=2060	Integral membrane protein. Synaptic vesicles.	Synaptotagmin IV (SydV).
U14398	8138	P50232	8139	X96783	8140	O00445	8141	42	Synaptotagmin n 4	U14398 Rattus norvegicus synaptotagmin IV homolog mRNA, complete cds /cds=(267,1544) /gb=U14398 /gi=550453 /ug=Rn.11072 /len=2060	Integral membrane protein. Synaptic vesicles.	Synaptotagmin IV (SydV).
U14398	8142	P50232	8143	X96783	8144	O00445	8145	42	Synaptotagmin n 4	U14398 Rattus norvegicus synaptotagmin IV homolog mRNA, complete cds /cds=(267,1544) /gb=U14398 /gi=550453 /ug=Rn.11072 /len=2060	Integral membrane protein. Synaptic vesicles.	Synaptotagmin IV (SydV).
U14746	8146	AAA868 74	8147	L15409	8148	P40337	8149	88.69	VHL protein	U14746 Rattus norvegicus VHL protein (VHL) mRNA, complete cds /cds=(119,678) /gb=U14746 /gi=882107 /ug=Rn.11059 /len=2807	Endoplasmic reticulum lumen.	Reticulocalbin 2 precursor (Calcium- binding protein ERC-55) (Talporin- associated calcium-binding protein-49) (TCBP-49).
U15550	8150	AAA507 61	8151	X56160	8152	P24821	8153	70	Tenascin-C	U15550 RNU15550 Rattus norvegicus tenascin-C mRNA, partial cds	Endoplasmic reticulum lumen.	Reticulocalbin 2 precursor (Calcium- binding protein ERC-55) (Talporin- associated calcium-binding protein-49) (TCBP-49).
U15734	8154	Q62703	8155	X78689	8156	Q14257	8157	87.78	Talporin- associated calcium binding protein 49	U15734 Rattus norvegicus talporin- associated calcium binding protein-49 precursor mRNA, complete cds /cds=(229,1185) /gb=U15734 /gi=606967 /ug=Rn.8133 /len=2019	Endoplasmic reticulum lumen.	Reticulocalbin 2 precursor (Calcium- binding protein ERC-55) (Talporin- associated calcium-binding protein-49) (TCBP-49).
U16245	8158	P47864	8159	NM_0016 51	8160	NP_001 642	8161	77	Aquaporin-5	U16245 Rattus norvegicus aquaporin-5 (AQP5) mRNA, complete cds /cds=(109,906) /gb=U16245 /gi=664759 /ug=Rn.10068 /len=1428	Integral membrane protein.	Aquaporin 5.
U16655	8162	AAC52 346	8163	AK023083	8164	NP_116 115	8165	85.45	Phospholipase C delta-4 mRNA	U16655 Rattus norvegicus phospholipase C delta-4 mRNA, complete cds /cds=(142,2460) /gb=U16655 /gi=571465 /ug=Rn.11356 /len=2696	Integral membrane protein.	Aquaporin 5.

Table 2.

U16686	8166	Q62716	8167	NM_0210 10	8168	NP_066 280	8169	43	defensin RatNP-1 precursor	U16686 Rattus norvegicus defensin RatNP-1 precursor mRNA, complete cds /cds=(76,360) /gb=U16686 /gi=1041810 /ug=Rn.10223 /len=485	Secreted.	Neutrophil antibiotic peptide NP-1 precursor (Neutrophil defensin 1)(RatNP-1).
U17013	8170	AAA531 85	8171	NM_0026 97	8172	P14859	8173	56	transcription factor Oct1 (Oct1)	U17013 Rattus norvegicus transcription factor Oct1 (Oct1) mRNA, partial cds /cds=(0,1898) /gb=U17013 /gi=575454 /ug=Rn.9992 /len=2157		
U17253	8174	Q62722	8175	AF045452	8176	Q13508	8177	88.85	Transcriptional repressor NAB1	U17253 Rattus norvegicus transcriptional repressor NAB1 mRNA, complete cds /cds=(351,2063) /gb=U17253 /gi=915281 /ug=Rn.10099 /len=2416	Nuclear.	NGF-A binding protein 1 (EGR- 1 binding protein 1).
U17254	8178	P22829	8179	D49728	8180	P22736	8181	91	Immediate early gene transcription factor NGFI-B	U17254 Rattus norvegicus immediate early gene transcription factor NGFI-B mRNA, complete cds /cds=(212,1903) /gb=U17254 /gi=598053 /ug=Rn.10000 /len=2488	Nuclear.	Orphan nuclear receptor HMR (Nerve growth factor induced protein 1- B)(NGFI-B) (NUR77).
U17254	8182	P22829	8183	D49728	8184	P22736	8185	91	Immediate early gene transcription factor NGFI-B	U17254 Rattus norvegicus immediate early gene transcription factor NGFI-B mRNA, complete cds /cds=(212,1903) /gb=U17254 /gi=598053 /ug=Rn.10000 /len=2488	Nuclear.	Orphan nuclear receptor HMR (Nerve growth factor induced protein 1- B)(NGFI-B) (NUR77).
U17565	8186	Q62724	8187	D84557	8188	Q14566	8189	86.92	Rattus norvegicus intestinal DNA replication protein mRNA, partial cds	U17565 Rattus norvegicus intestinal DNA replication protein mRNA, partial cds /cds=(0,1623) /gb=U17565 /gi=3169698 /ug=Rn.10220 /len=1812	Nuclear.	DNA replication licensing factor MCM6 (Intestinal DNA replicationprote in) (Fragment).

Table 2.

U17607	8190	Q82725	8191	AK055328	8192	BAA128 18	8193	95.41	Rattus norvegicus CCAAT binding transcription factor CBF subunit C	U17607 Rattus norvegicus CCAAT binding transcription factor CBF subunit C mRNA, complete cds /cds=(84,1081) /gb=U17607 /gi=1209479 /ug=Rn.10212 /len=1203	Nuclear.	Nuclear transcription factor Y subunit gamma (NF-Y protein chain C)(Nuclear factor YC) (NF- YC) (CCAAT- binding transcription factorsubunit C) (CBF-C).
U17697	8194	Q84654	8195	BG567904	8196	Q16850	8197	93.38	Cytochrom P450 Lanosterol 14 alpha- demethylase	U17697 RNU17697 Rattus norvegicus lanosterol 14-alpha-demethylase mRNA, complete cds	Microsomal .	Cytochrome P450 51 (EC 1.14.14.-) (CYPL1) (P450L1) (Sterol 14- alpha-demethyla se) (Lanosterol 14-alpha demethylase) (LDM) (P450- 14DM).
U17834	8198	P47853	8199	BC001754	8200	Q16626	8201	100	biglycan	U17834 Rattus norvegicus biglycan mRNA, complete cds /cds=(122,1231) /gb=U17834 /gi=600487 /ug=Rn.783 /len=2432	Extracellular matrix .	Biglycan precursor (Bone/cartilage proteoglycan I) (PG-S1).

Table 2.

U17919	8202	P55009	8203	U95213	8204	P55008	8205	91.67	allograft inflammatory factor-1.	U17919 Rattus norvegicus allograft inflammatory factor-1 mRNA, complete cds /cds=(70,513) /gb=U17919 /gi=872908 /ug=Rn.10581 /len=827	Allograft inflammatory factor-1 (AIF-1) (ionized calcium- binding adapter molecule 1) (Microglia response factor) (MRF-1).
U18771	8208	P51166	8207	BC007681	8208	Q8ULW 5	8209	87.43	Rattus norvegicus Rab28 mRNA, complete cds	U18771 Rattus norvegicus Rab28 mRNA, complete cds /cds=(29,601) /gb=U18771 /gi=819733 /ug=Rn.10876 /len=1098	Ras-related protein Rab-26.
U19814	8210	A56391	8211	AK021613	8212	CAB432 82	8213	88.62	Rattus norvegicus lamina- associated polypeptide 1C (LAP1C) mRNA, complete cds	U19814 Rattus norvegicus lamina-associated polypeptide 1C (LAP1C) mRNA, complete cds /cds=(58,1578) /gb=U19814 /gi=769854 /ug=Rn.11373 /len=2310	
U19814	8214	A56391	8215	AK021613	8216	CAB432 82	8217	88.62	Rattus norvegicus lamina- associated polypeptide 1C (LAP1C) mRNA, complete cds	U19814 Rattus norvegicus lamina-associated polypeptide 1C (LAP1C) mRNA, complete cds /cds=(58,1578) /gb=U19814 /gi=769854 /ug=Rn.11373 /len=2310	

Table 2.

U19614	8218	A56391	8219	AK021613	8220	CAB432 82	8221	88.62	Rattus norvegicus lamina- associated polypeptide 1C (LAP1C) mRNA, complete cds	U19614 Rattus norvegicus lamina-associated polypeptide 1C (LAP1C) mRNA, complete cds /cds=(68,1578) /gb=U19614 /gi=769854 /ug=Rn.11373 /len=2310
U19614	8222	A56391	8223	AK021613	8224	CAB432 82	8225	88.62	Rattus norvegicus lamina- associated polypeptide 1C (LAP1C) mRNA, complete cds	U19614 Rattus norvegicus lamina-associated polypeptide 1C (LAP1C) mRNA, complete cds /cds=(68,1578) /gb=U19614 /gi=769854 /ug=Rn.11373 /len=2310
U19866	8226	AAA686 95	8227	D87468	8228	NP_056 008	8229	89.09	Growth factor (Arc) mRNA	U19866 Rattus norvegicus growth factor (Arc) mRNA, complete cds /cds=(216,1406) /gb=U19866 /gi=644828 /ug=Rn.10086 /len=3032
U19893	8230	Q9QXQ 0	8231	XM_02944 3		XP_029 443		98	Alpha actinin 4	U19893 Rattus norvegicus alpha actinin mRNA, complete cds /cds=(166,2844) /gb=U19893 /gi=1142639 /ug=Rn.10730 /len=2996
U19893	8232	Q9QXQ 0	8233	XM_02944 3		XP_029 443		98	Alpha actinin 4	U19893 Rattus norvegicus alpha actinin mRNA, complete cds /cds=(166,2844) /gb=U19893 /gi=1142639 /ug=Rn.10730 /len=2996
U20195	8234	AAA828 91	8235	XM_00144 2		XP_001 442		91	phosphogluco mutase (Pgm1)	U20195 RNU20195 Rattus norvegicus phosphoglucomutase (Pgm1) mRNA, partial cds

Cytoplasmic.  
Alpha-actinin 4  
(Non-muscle  
alpha-actinin 4)  
(F-actin cross  
linkingprotein).Cytoplasmic.  
Alpha-actinin 4  
(Non-muscle  
alpha-actinin 4)  
(F-actin cross  
linkingprotein).

Table 2.

U20796	8236	Q63504	8237	IL31785	8238	Q14985	8239	87.1	nuclear receptor Rev- ErbA-beta	U20796 Rattus norvegicus nuclear receptor Rev-ErbA-beta mRNA, partial cds /cds=(0,1601)/gb=U20796 /gi=687734 /ug=Rn.10055 /len=3628	Nuclear .	Orphan nuclear receptor NR1D2 (Rev-erb-beta) (EAR4).
U21101	8240	Q01062	8241	U67733	8242	O00408	8243	90.79	cyclic GMP stimulated phosphodiesterase (PDE2A2)	U21101 Rattus norvegicus cyclic GMP stimulated phosphodiesterase (PDE2A2) mRNA, complete cds /cds=(37,2823) /gb=U21101 /gi=706929 /ug=Rn.10044 /len=3980	Membrane- bound .	*cGMP- dependent 3',5'- cyclic phosphodiesterase (EC 3.1.4.17) (CyclicGMP stimulated phosphodiesterase) (CGS- PDE) (cGSPDE).*
U21719	8244	NP_062426	8245	NM_004728	8246	Q8NR30	8247	78	DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 21	U21719mRNA RNU21719 Rattus norvegicus clone D920 intestinal epithelium proliferating cell-associated mRNA sequence		
U21721	8248	No Rat Protein Found.		XM_040050	8249	XP_040050	8250		Rattus norvegicus clone C101 intestinal epithelium proliferating cell-associated mRNA sequence	U21721mRNA RNU21721 Rattus norvegicus clone C101 intestinal epithelium proliferating cell-associated mRNA sequence		

Table 2.

U21721	8251	No Rat Protein Found.	XM_040050	8252	XP_040050	8253	Rattus norvegicus clone C101 intestinal epithelium proliferating cell-associated mRNA sequence	U21721 mRNA RNU21721 Rattus norvegicus clone C101 intestinal epithelium proliferating cell-associated mRNA sequence
U23146	8254	AA78517	8255	XM_004539	8256	XP_004539	45	U23146 cds RNU23146 Rattus norvegicus mitogenic regulation SSeCKS (322) gene, complete cds
U23407	8256	P51673	8257	M68867	8258	P29373	88.63	U23407 Rattus norvegicus cellular retinoid acid-binding protein II (CRABP II) mRNA, complete cds /cds=(111,530) /gb=U23407 /gi=727432 /ug=Rn.11333 /len=817
U23769	8260	P52944	8261	BC000915	8262	O00151	86.59	U23769 Rattus norvegicus CLP38 (clp36) mRNA, complete cds /cds=(66,1049) /gb=U23769 /gi=1020150 /ug=Rn.11170 /len=1392
U24489	8264	g1336153	8265	M26856	8265	g180984	70	U24489 Rattus norvegicus tenascin-X mRNA, partial cds /cds=(0,614) /gb=U24489 /gi=841425 /ug=Rn.10225 /len=793
U24652	8266	P50745	8267	NM_005475	8268	Q8UQQ2	75	U24652 Rattus norvegicus Lnk1 mRNA, complete cds /cds=(75,953) /gb=U24652 /gi=1109773 /ug=Rn.11228 /len=3285

Cytoplasmic.

"Retinoid acid-binding protein II, cellular (CRABP-II)." (CRABP-II).

Cytoplasmic.

PDZ and LIM domain protein 1 (LIM domain protein CLP-36) (C-terminal LIM domain protein 1) (Elfin).

Lymphocyte specific adapter protein Lnk (Signal transduction protein Lnk) (Lymphocyte adapter protein).



Table 2.

U25281	8270	AAA877 91	8271	AA972141	8272	AAD154 18	90.77	Rattus norvegicus SH3 domain binding protein (CR16) mRNA, complete cds	U25281 Rattus norvegicus SH3 domain binding protein (CR16) mRNA, complete cds /cds=(181,1546) /gb=U25281 /gi=1185396 /ug=Rn.11272 /len=4359
U25746	8273	A57514	8274	AF106680	8275	BAA345 21	91.92	Rattus norvegicus RNA helicase with arginine- serine-rich domain mRNA, complete cds	U25746 Rattus norvegicus RNA helicase with arginine-serine-rich domain mRNA, complete cds /cds=(152,3250) /gb=U25746 /gi=897914 /ug=Rn.3436 /len=3531
U25746	8277	A57514	8278	AF106680	8279	BAA345 21	91.92	Rattus norvegicus RNA helicase with arginine- serine-rich domain mRNA, complete cds	U25746 Rattus norvegicus RNA helicase with arginine-serine-rich domain mRNA, complete cds /cds=(152,3250) /gb=U25746 /gi=897914 /ug=Rn.3436 /len=3531
U25746	8281	A57514	8282	AF106680	8283	BAA345 21	91.92	Rattus norvegicus RNA helicase with arginine- serine-rich domain mRNA, complete cds	U25746 Rattus norvegicus RNA helicase with arginine-serine-rich domain mRNA, complete cds /cds=(152,3250) /gb=U25746 /gi=897914 /ug=Rn.3436 /len=3531

Table 2.

U25746	8285	A57514	8286	AF106680	8287	BAA345 21	8288	91.92	Rattus norvegicus RNA helicase with arginine- serine-rich domain mRNA, complete cds	U25746 Rattus norvegicus RNA helicase with arginine-serine-rich domain mRNA, complete cds /cds=(152,3250) /gb=U25746 /gi=897914 /ug=Rn.3436 /len=3531
U25746	8289	A57514	8290	AF106680	8291	BAA345 21	8292	91.92	Rattus norvegicus RNA helicase with arginine- serine-rich domain mRNA, complete cds	U25746 Rattus norvegicus RNA helicase with arginine-serine-rich domain mRNA, complete cds /cds=(152,3250) /gb=U25746 /gi=897914 /ug=Rn.3436 /len=3531
U25746	8293	A57514	8294	AF106680	8295	BAA345 21	8296	91.92	Rattus norvegicus RNA helicase with arginine- serine-rich domain mRNA, complete cds	U25746 Rattus norvegicus RNA helicase with arginine-serine-rich domain mRNA, complete cds /cds=(152,3250) /gb=U25746 /gi=897914 /ug=Rn.3436 /len=3531
U26310	8297	AA676 48	8298	NM_0226 48	8299	NP_072 174	8300	97	Tensin (Tns)  S100A1 gene	U26310 RNU26310 Rattus norvegicus tensin (Tns) mRNA, partial cds U26356mRNA RNSHUNA1 Rattus norvegicus S100A1 gene, exon 1
U26356	8301	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		90.76	Cys2/His2 zinc finger protein (rK2)	U27186 Rattus norvegicus Cys2/His2 zinc finger protein (rK2) mRNA, complete cds /cds=(320,2554) /gb=U27186 /gi=868159 /ug=Rn.10168 /len=2817

Table 2.

U27201	8306	P48032	8307	NM_000362	8308	P35625	8309	85	tissue inhibitor of metalloproteinase 3 (TIMP-3)	U27201 Rattus norvegicus tissue inhibitor of metalloproteinase 3 (TIMP-3) mRNA, complete cds /cds=(3,636) /gb=U27201 /gi=871205 /ug=Rn.6050 /len=704	Secreted. Extracellular matrix.	Metalloproteinase inhibitor 3 precursor (TIMP-3) (Tissue inhibitor of metalloproteinases-3).
U27319	8310	AAC52945	8311	NM_000188	8312	P19367	8313	100	Hexokinase 1	U27319 Rattus norvegicus type I hexokinase (HK1) gene, promoter region and partial cds		
U27767	8314	P49799	8315	U27768	8316	P49798	8317	90.41	Regulator of G protein signalling 4	U27767 Rattus norvegicus RGP4 mRNA, complete cds /cds=(63,680) /gb=U27767 /gi=1216370 /ug=Rn.11085 /len=1489		Regulator of G-protein signalling 4 (RGS4) (RGP4).
U27767	8318	P49799	8319	U27768	8320	P49798	8321	90.41	Regulator of G protein signalling 4	U27767 Rattus norvegicus RGP4 mRNA, complete cds /cds=(63,680) /gb=U27767 /gi=1216370 /ug=Rn.11085 /len=1489		Regulator of G-protein signalling 4 (RGS4) (RGP4).
U28938	8322	T14328	8323	AF187042	8324	S60613	8325	88.55	Receptor-type protein tyrosine phosphatase D30	U28938 Rattus norvegicus protein tyrosine phosphatase D30 mRNA, complete cds /cds=(62,3712) /gb=U28938 /gi=1144001 /ug=Rn.10163 /len=4871		
U30788	8326	No Rat Protein Found.		BC002613	8327	No Human Protein Found.		81.18	Rattus norvegicus Tclone4 mRNA	U30788 Rattus norvegicus Tclone4 mRNA /cds=UNKNOWN /gb=U30788 /gi=1216374 /ug=Rn.8477 /len=2026		
U30938	8328	P15146	8329	AK056148	8330	XP_030843		93.33	Rattus norvegicus microtubule-associated protein 2 (MAP2) mRNA, 3' UTR	U30938 Rattus norvegicus microtubule-associated protein 2 (MAP2) mRNA, 3' UTR /cds=UNKNOWN /gb=U30938 /gi=987494 /ug=Rn.11396 /len=3736		Microtubule-associated protein 2 (MAP2B) (Contains: MAP2C).

Table 2.

U31203	8331	Q62809	8332	NIM_0054 50	8333	NP_005 441	8334	76	Noggin	U31203 Rattus norvegicus noggin (NOGGIN) mRNA, partial cds /cds=(0,434) /gb=U31203 /gl=1117818 /ug=Rn.10154 /len=997	Secreted.	Noggin precursor (Fragment).
U31668	8335	Q62814	8336	Z78408	8337	Q15329	8338	92.84	Rattus norvegicus transcription factor E2F-5 mRNA, partial cds	U31668 Rattus norvegicus transcription factor E2F-5 mRNA, partial cds /cds=(0,904) /gb=U31668 /gl=939730 /ug=Rn.10288 /len=1488	Nuclear.	Transcription factor E2F5 (E2F-5) (Fragment).
U31866	8339	g18544 76	8340	AK021725	8340	g339469	8346	88.61	Rattus norvegicus Nclone10 mRNA	U31866 Rattus norvegicus Nclone10 mRNA /cds=UNKNOWN /gb=U31866 /gl=1216376 /ug=Rn.11164 /len=2657		
U31866	8341	g18544 76	8342	AK021725	8342	g339469	8346	88.61	Rattus norvegicus Nclone10 mRNA	U31866 Rattus norvegicus Nclone10 mRNA /cds=UNKNOWN /gb=U31866 /gl=1216376 /ug=Rn.11164 /len=2657		
U32314	8343	P52873	8344	BC011617	8345	P11498	8350	90.29	Pyruvate carboxylase	U32314 Rattus norvegicus pyruvate carboxylase mRNA, complete cds /cds=(34,3570) /gb=U32314 /gl=929887 /ug=Rn.11084 /len=3945	Mitochondrial matrix.	"Pyruvate carboxylase, mitochondrial precursor (EC 6.4.1.1) (Pyruvatecarboxylase) (PCB)." "
U32314	8347	P52873	8348	BC011617	8349	P11498	8350	90.29	Pyruvate carboxylase	U32314 Rattus norvegicus pyruvate carboxylase mRNA, complete cds /cds=(34,3570) /gb=U32314 /gl=929887 /ug=Rn.11084 /len=3945	Mitochondrial matrix.	"Pyruvate carboxylase, mitochondrial precursor (EC 6.4.1.1) (Pyruvatecarboxylase) (PCB)." "
U32575	8351	AAA855 05	8352	AF055008	8353	AAC093 58	8354	93	Sec6	U32575 RNU32575 Rattus norvegicus (rsec6) mRNA, complete cds		
U32575	8355	AAA855 05	8356	AF055006	8357	AAC093 58	8358	93	Sec6	U32575 RNU32575 Rattus norvegicus (rsec6) mRNA, complete cds		
U32575	8359	AAA855 05	8360	AF055006	8361	AAC093 58	8362	93	Sec6	U32575 RNU32575 Rattus norvegicus (rsec6) mRNA, complete cds		

Table 2.

U32575	8363	AAA855 05	8364	AF055006	8365	AAC093 58	8366	93	Sec5	U32575 RNU32575 Rattus norvegicus (sec5) mRNA, complete cds
U32577	8367	AAA834 42	8368	AK024911	8369	P52272	8370	97.4	Rattus norvegicus M4 protein homolog mRNA, partial cds	U32577 Rattus norvegicus M4 protein homolog mRNA, partial cds /cds=(210,644) /gb=U32577 /gi=1101765 /ug=Rn.10156 /len=758
U32681	8371	A57190	8372	AJ243212	8373	I38006	8374	86.17	Crp-ductin	U32681 Rattus norvegicus ebnerin mRNA, complete cds /cds=(93,3965) /gb=U32681 /gi=875346 /ug=Rn.10107 /len=4344
U32681	8375	A57190	8376	AJ243212	8377	I38006	8378	86.17	Crp-ductin	U32681 Rattus norvegicus ebnerin mRNA, complete cds /cds=(93,3965) /gb=U32681 /gi=875346 /ug=Rn.10107 /len=4344
U33553	8379	AAC98 537	8380	AF059274	8381	AAC686 12	8382	92.14	Neuroglycan C	U33553 Rattus norvegicus neuroglycan C precursor mRNA, complete cds /cds=(12,1646) /gb=U33553 /gi=1061328 /ug=Rn.10146 /len=2107
U33553	8383	NP_062 157	8384	AF059274	8385	NP_006 565	8386	92.14	Chondroitin sulfate proteoglycan 5 (neuroglycan C)	U33553 Rattus norvegicus neuroglycan C precursor mRNA, complete cds /cds=(12,1646) /gb=U33553 /gi=1061328 /ug=Rn.10146 /len=2107
U34843	8387	g12361 14	8388	U27112	8389	g355174 2	8390	88.12	Rattus norvegicus cell cycle progression related D123 mRNA, complete cds	U34843 Rattus norvegicus cell cycle progression related D123 mRNA, complete cds /cds=(53,1083) /gb=U34843 /gi=1236113 /ug=Rn.11096 /len=1983

Table 2.

U34843	8391	g12361 14	8392	U27112	8393	g355174 2	8394	88.12	Rattus norvegicus cell cycle progression related D123 mRNA, complete cds	U34843 Rattus norvegicus cell cycle progression related D123 mRNA, complete cds /cds=(63,1063) /gb=U34843 /gi=1236113 /ug=Rn.11098 /len=1683
U34832	8395	AAA791 37	8396	NM_0248 16	8397	NP_079 092	8398	76	Fos-related antigen	U34832 Rattus norvegicus Fos-related antigen mRNA, complete cds /cds=(60,1724) /gb=U34832 /gi=1016711 /ug=Rn.3228 /len=2202
U34832	8399	AAA791 37	8400	NM_0248 16	8401	NP_079 092	8402	76	Fos-related antigen	U34832 Rattus norvegicus Fos-related antigen mRNA, complete cds /cds=(60,1724) /gb=U34832 /gi=1016711 /ug=Rn.3228 /len=2202
U34832	8403	AAA791 37	8404	NM_0248 16	8405	NP_079 092	8406	76	Fos-related antigen	U34832 Rattus norvegicus Fos-related antigen mRNA, complete cds /cds=(60,1724) /gb=U34832 /gi=1016711 /ug=Rn.3228 /len=2202
U34832	8407	AAA791 37	8408	NM_0248 16	8409	NP_079 092	8410	76	Fos-related antigen	U34832 Rattus norvegicus Fos-related antigen mRNA, complete cds /cds=(60,1724) /gb=U34832 /gi=1016711 /ug=Rn.3228 /len=2202
U34832	8411	AAA791 37	8412	NM_0248 16	8413	NP_079 092	8414	76	Fos-related antigen	U34832 Rattus norvegicus Fos-related antigen mRNA, complete cds /cds=(60,1724) /gb=U34832 /gi=1016711 /ug=Rn.3228 /len=2202
U34832	8415	AAA791 37	8416	NM_0248 16	8417	NP_079 092	8418	76	Fos-related antigen	U34832 Rattus norvegicus Fos-related antigen mRNA, complete cds /cds=(60,1724) /gb=U34832 /gi=1016711 /ug=Rn.3228 /len=2202
U34893	8419	P53563	8420	Z23115	8421	Q07617	8422	88	Programmed cell death repressor BCL- X-Long mRNA	U34893 RNU34893 Rattus norvegicus programmed cell death repressor BCL-X-Long mRNA, complete cds
									MITOCHON DRIAL MEMBRANE S AND PERINUCLE AR ENVELOPE.	Apoptosis regulator Bcl-x.

Table 2.

U35099	8423	Q13329	8424	AK057826	8425	AAC502 29	8426	93.13	Rattus norvegicus complexin II mRNA, complete cds	U35099 Rattus norvegicus complexin II mRNA, complete cds /cds=(282,686) /gb=U35099 /gi=1040918 /ug=Rn.10134 /len=900	Complexin 2 (Synaphin 1) (921-L).
U35244	8427	AAC52 985	8428	NM_0229 16	8429	NP_075 067	8430	93	vacuolar protein sorting homolog r- vps33a	U35244 Rat vacuolar protein sorting homolog r-vps33a mRNA, complete cds /cds=(66,1859) /gb=U35244 /gi=1477467 /ug=Rn.1285 /len=3289	
U35244	8431	AAC52 985	8432	NM_0229 16	8433	NP_075 067	8434	93	vacuolar protein sorting homolog r- vps33a	U35244 Rat vacuolar protein sorting homolog r-vps33a mRNA, complete cds /cds=(66,1859) /gb=U35244 /gi=1477467 /ug=Rn.1285 /len=3289	
U35245	8435	AAC52 986	8436	AL357472	8437	AAG346 80	8438	90.72	Rat vacuolar protein sorting homolog r- vps33b mRNA	U35245 RNU35245 Rat vacuolar protein sorting homolog r-vps33b mRNA, complete cds	
U35245	8439	AAC52 986	8440	AL357472	8441	AAG346 80	8442	90.72	Vacuolar protein sorting homolog r- vps33b	U35245 RNU35245 Rat vacuolar protein sorting homolog r-vps33b mRNA, complete cds	
U35775	8443	Q62847	8444	D67031	8445	Q9UEY6	8446	92	Adducin 3, gamma	U35775 Rattus norvegicus gamma-adducin mRNA, complete cds /cds=(133,2148) /gb=U35775 /gi=1041239 /ug=Rn.9416 /len=2246	Gamma adducin (Adducin-like protein 70) (Protein Kinase C binding protein 35H).

Table 2.

U35775	8447	Q62847	8448	D67031	8449	Q8UEY8	8450	92	Adducin 3, gamma	U35775 Rattus norvegicus gamma-adducin mRNA, complete cds /cds=(133,2148) /gb=U35775 /gi=1041239 /ug=Rn.9418 /len=2246	Gamma adducin (Adducin-like protein 70) (Protein kinase C binding protein 35H).
U35776	8451	AAC52337	8452	NIM_018209	8453	NP_060679	8454	75	ADP-ribosylation factor-directed GTPase activating protein	U35776 Rattus norvegicus ADP-ribosylation factor-directed GTPase activating protein mRNA, complete cds /cds=(283,1530) /gb=U35776 /gi=1130483 /ug=Rn.11219 /len=1862	
U35890	8455	Q10473	8456	BG026335	8457	P09896	8458	93.4	polypeptide GalNAc transferase	U35890 Rattus norvegicus polypeptide GalNAc transferase T1 mRNA, complete cds /cds=(102,1781) /gb=U35890 /gi=1141781 /ug=Rn.10268 /len=1838	Type II membrane protein. Golgi.
U36444	8459	JC5110	8460	NM_006201	8461	Q00536	8462	92	PCTAIRE-1 protein kinase mRNA (Alternatively spliced - 1a used for Human)	U36444cds#1 RRU36444 Rattus rattus PCTAIRE-1 protein kinase mRNA, alternatively spliced, complete cds	"Polypeptide N-acetylglucosaminyltransferase (EC 2.4.1.41) (Protein-UDP-acetylglucosaminyltransferase) (UDP-GalNAc:polypeptide, N-acetylglucosaminyltransferase) (GalNAc-T1)." "



Table 2.

U36444	8463	JC5110	8464	NIM_0062 01	8465	Q00536	8466	92	PCTAIRE-1 protein kinase mRNA (Alternatively spliced - 1a used for Human)	U36444cds#1 RRU36444 Rattus rattus PCTAIRE-1 protein kinase mRNA, alternatively spliced, complete cds			
U36444	8467	JC5110	8468	NIM_0062 01	8469	Q00536	8470	92	PCTAIRE-1 protein kinase mRNA (Alternatively spliced - 1a used for Human)	U36444Poly_ASites2 RRU36444 Rattus rattus PCTAIRE-1 protein kinase mRNA, alternatively spliced, complete cds			
U36482	8471	P52555	8472	X94910	8473	P30040	8474	87.55	endoplasmic reticulum protein ERp29	U36482 Rattus norvegicus endoplasmic reticulum protein ERp29 precursor, mRNA, complete cds /cds=(43,825) /gb=U36482 /gi=2317789 /ug=Rn.11262 /len=1115	Endoplasmic reticulum lumen.	Endoplasmic reticulum protein ERp29 precursor (ERp31).	
U36482	8475	P52555	8476	X94910	8477	P30040	8478	87.55	endoplasmic reticulum protein ERp29 precursor	U36482 Rattus norvegicus endoplasmic reticulum protein ERp29 precursor, mRNA, complete cds /cds=(43,825) /gb=U36482 /gi=2317789 /ug=Rn.11262 /len=1115	Endoplasmic reticulum lumen.	Endoplasmic reticulum protein ERp29 precursor (ERp31).	
U36482	8479	P52555	8480	X94910	8481	P30040	8482	87.55	endoplasmic reticulum protein ERp29	U36482 Rattus norvegicus endoplasmic reticulum protein ERp29 precursor, mRNA, complete cds /cds=(43,825) /gb=U36482 /gi=2317789 /ug=Rn.11262 /len=1115	Endoplasmic reticulum lumen.	Endoplasmic reticulum protein ERp29 precursor (ERp31).	
U36482	8483	P52555	8484	X94910	8485	P30040	8486	87.55	endoplasmic reticulum protein ERp29 precursor	U36482 Rattus norvegicus endoplasmic reticulum protein ERp29 precursor, mRNA, complete cds /cds=(43,825) /gb=U36482 /gi=2317789 /ug=Rn.11262 /len=1115	Endoplasmic reticulum lumen.	Endoplasmic reticulum protein ERp29 precursor (ERp31).	

Table 2.

U36580	8487	Q62849	8486	BC010696	8489	Q18549	8490	87.53	Rattus norvegicus serine proteinase rPC7 precursor (Pcsk7)	U36580 Rattus norvegicus serine proteinase rPC7 precursor (Pcsk7) mRNA, complete cds /cds=(252,2803) /gb=U36580 /gi=1244619 /ug=Rn.10653 /len=3485	TYPE I MEMBRANE PROTEIN. SEEMS TO BE LOCALIZED INTRACELL ULARLY TO THE TRANS GOLGI NETWORK.	Proteinase convertase subtilisin/kexin type 7 precursor (EC 3.4.21.-) (Proteinase convertase PC7) (Subtilisin/kexin- like protease PC7)(Prohormo ne convertase PC7) (rPC7).
U36771	8491	P97564	8492	XM_034422	8493	XP_034422	8494	90	sn-glycerol 3- phosphate acyltransferase	U36771 RNU36771 Rattus norvegicus glycerol 3-phosphate acyltransferase mRNA, nuclear gene encoding mitochondrial protein, partial cds	Integral membrane protein. Mitochondrial outer membrane.	"Glycerol-3- phosphate acyltransferase, mitochondrial precursor(EC 2.3.1.15) (GPAT)."
U36772	8495	AAB39470	8496	XM_034422	8497	XP_034422	8498	90	sn-glycerol 3- phosphate acyltransferase	U36772 Rattus norvegicus glycerol-3- phosphate acyltransferase mRNA, nuclear gene encoding mitochondrial protein, partial cds /cds=(0,1411) /gb=U36772 /gi=1754786 /ug=Rn.10646 /len=1512		
U36895	8499	A57223	8500	AF255342	8501	AAG10698	8502	27	Rattus norvegicus putative pheromone receptor VN3 mRNA, complete cds	U36895 Rattus norvegicus putative pheromone receptor VN3 mRNA, complete cds /cds=(180,1115) /gb=U36895 /gi=1055247 /ug=Rn.10141 /len=1305		

Table 2.

U37099	8503	AAC52 704	8504	NM_0028 86	8505	P20336	8508	86	GTP-binding protein (rab3c) mRNA, partial cds	U37099 RNU37099 Rattus norvegicus small GTP-binding protein (rab3c) mRNA, partial cds
U37138	8507	P15589	8508	M16505	8509	P08842	8510	80	Steroid sulfatase (Sta)	U37138 Rattus norvegicus steroid sulfatase (Sta) mRNA, complete cds /cds=(526,2259) /gb=U37138 /gi=1045841 /ug=Rn.6312 /len=2457
U37142	8511	P55068	8512	NM_0219 48	8513	NP_068 767	8514	90	Brevican core protein	U37142 Rattus norvegicus brevican core protein mRNA, complete cds /cds=(59,2710) /gb=U37142 /gi=1143284 /ug=Rn.10315 /len=3077
										MICROSOMAL MEMBRANE. THE SEQUENCE SHOWS SEVERAL MEMBRANE-SPANNING DOMAINS THAT COULD SERVE TO ANCHOR THE PROTEIN IN THE MICROSOMAL MEMBRANE.
										SECRETED; EXTRACELLULAR MATRIX AND ONE FORM ATTACHED TO THE MEMBRANE BY A GPI-ANCHOR.
										Brevican core protein precursor (Brain enriched hyaluronan binding protein) (BEHAB protein).

Table 2.

U37464	8515	Q62862	8516	U71088	8517	Q13163	8518	91.52	MEK5alpha-2 (MEK5)	U37464 Rattus norvegicus MEK5alpha-2 (MEK5) mRNA, complete cds /cds=(87,1403) /gb=U37464 /gi=1016335 /ug=Rn.11054 /len=1742	"CYTOPLAS MIC (FOR MEK5-BETA) AND PARTICULA TE (MEK5- ALPHA). THE ALTERNATI VELY SPLICED EXON IN ALPHA ISOFORM RESEMBLE CONSERVE D SEQUENCE S THAT MEDIATE INTERACTIO NS WITH THE CYTOSKELE TON, -	Dual specificity mitogen- activated protein kinase kinase 5(EC 2.7.1.-) (MAP kinase kinase 5) (MAPKK 5) (MAPK/ERK kinase 5).
U38253	8519	P70541	8520	BC018728	8521	Q8NR50	8522	88.59	Rattus norvegicus Initiation factor eIF-2B gamma subunit (eIF- 2B gamma) mRNA, complete cds	U38253 Rattus norvegicus Initiation factor eIF-2B gamma subunit (eIF-2B gamma) mRNA, complete cds /cds=(88,1448) /gb=U38253 /gi=1537014 /ug=Rn.10577 /len=1470	Translation Initiation factor eIF-2B gamma subunit (eIF-2B GDP- GTPexchange factor).	
U38253	8523	P70541	8524	BC018728	8525	Q8NR50	8526	88.59	Rattus norvegicus Initiation factor eIF-2B gamma subunit (eIF- 2B gamma)	U38253 Rattus norvegicus Initiation factor eIF-2B gamma subunit (eIF-2B gamma) mRNA, complete cds /cds=(88,1448) /gb=U38253 /gi=1537014 /ug=Rn.10577 /len=1470	Translation Initiation factor eIF-2B gamma subunit (eIF-2B GDP- GTPexchange factor).	

Table 2.

U38253	8527	P70541	8528	BC018728	8529	Q9NR50	8530	88.59	Rattus norvegicus Initiation factor eIF-2B gamma subunit (eIF-2B gamma mRNA, complete cds /cds=(88,1446) /gb=U38253 /gi=1537014 /ug=Rn.10577 /len=1470	A1639441	U38253 Rattus norvegicus Initiation factor eIF-2B gamma subunit (eIF-2B gamma) mRNA, complete cds /cds=(88,1446) /gb=U38253 /gi=1537014 /ug=Rn.10577 /len=1470	Translation initiation factor eIF-2B gamma subunit (eIF-2B GDP-GTPexchange factor).
U38376	8531	P50393	8532	M68874	8533	P47712	8534	88.92	Rattus norvegicus cytosolic phospholipase A2 mRNA, complete cds /cds=(172,2430) /gb=U38376 /gi=1143304 /ug=Rn.10162 /len=2838		U38376 Rattus norvegicus cytosolic phospholipase A2 mRNA, complete cds /cds=(172,2430) /gb=U38376 /gi=1143304 /ug=Rn.10162 /len=2838	CYTOSOLIC PHOSPHOLIPASE A2 (CPLA2) [Includes: Phospholipase A2 (EC 3.1.1.4) (Phosphatidylcholine 2-acylhydrolase); Lysophospholipase (EC 3.1.1.5)].
U38801	8535	P06768	8536	M13140	8537	P06746	8538	89.55	high molecular weight DNA polymerase beta complete cds /cds=(7,1014) /gb=U38801 /gi=1055328 /ug=Rn.8346 /len=9257		U38801 Rattus norvegicus high molecular weight DNA polymerase beta (mpolb) mRNA, complete cds /cds=(7,1014) /gb=U38801 /gi=1055328 /ug=Rn.8346 /len=9257	DNA polymerase beta (EC 2.7.7.7).

Table 2.

U39044	8539	Q62871	8540	AF250307	8541	Q13409	8542	85	Rattus norvegicus cytoplasmic dynein intermediate chain 2C mRNA, complete cds	U39044 Rattus norvegicus cytoplasmic dynein intermediate chain 2A mRNA, complete cds /cds=(70,1986) /gb=U39044 /gi=1151090 /ug=Rn.11014 /len=2538	"Dynein intermediate chain 2, cytosolic (DH IC-2) (Cytoplasmic dynein intermediate chain 2)." "
U39572	8543	AAD10400	8544	AK024034	8545	P42356	8546	93.91	Phosphatidylinositol 4-kinase	U39572 RNU39572 Rattus norvegicus phosphatidylinositol 4-kinase mRNA, complete cds	
U41845	8547	O08587	8548	NM_007172	8549	Q8UJK7	8550	85.95	Nuclear pore associated protein	U41845 Rattus norvegicus putative nuclear pore complex protein (Npnp60) mRNA, complete cds /cds=(320,1465) /gb=U41845 /gi=1915964 /ug=Rn.3242 /len=2894	"Nuclear. Localizes to the nucleoplasmic c fibrils of the nuclear pore complex. In the testis, the localization changes during germ cell differentiation; from the nuclear surface in spermatocytes to the"
U42413	8551	P80385	8552	U42412	8553	P54619	8554	88.77	Rattus norvegicus 5'-AMP-activated protein kinase, gamma-1 subunit	U42413 Rattus norvegicus 5 -AMP-activated protein kinase, gamma-1 subunit mRNA, complete cds /cds=(0,971) /gb=U42413 /gi=1338659 /ug=Rn.11089 /len=1550	"5'-AMP-activated protein kinase, gamma-1 subunit (AMPK gamma-1 chain)(AMPKg)." "

Table 2.

U42627	8555	Q64346	8556	XM_017018	XP_017018	83	dual-specificity protein tyrosine phosphatase	U42627 Rattus norvegicus dual-specificity protein tyrosine phosphatase (VH6) mRNA, complete cds /cds=(380,1505) /gb=U42627 /gi=1185551 /ug=Rn.4313 /len=2104	Cytoplasmic.	Dual specificity protein phosphatase 6 (EC 3.1.3.48) (EC 3.1.3.16)(Mitogen-activated protein kinase phosphatase 3) (MAP kinase phosphatase 3) (MKP-3).
U42719	8557	AAA91231	8558	NM_007293	P01028	87	Complement component 4	U42719 Rattus norvegicus C4 complement protein mRNA, partial cds /cds=(0,317) /gb=U42719 /gi=1213489 /ug=Rn.24913 /len=347		
U42976	8561	P12392	8562	U48881	P30926	91.12	Rattus norvegicus neuronal nicotinic acetylcholine receptor subunit beta4 mRNA, complete cds	U42976 Rattus norvegicus neuronal nicotinic acetylcholine receptor subunit beta4 mRNA, complete cds /cds=(60,1547) /gb=U42976 /gi=1150980 /ug=Rn.9695 /len=2481	Integral membrane protein.	"Neuronal acetylcholine receptor protein, beta-4 chain precursor(Neural acetylcholine receptor non-alpha-2 chain) (N-alpha 2)."
U44948	8565	Q62908	8566	U46006	Q16527	92.95	Rattus norvegicus smooth muscle cell LIM protein (SmLIM) mRNA, complete cds	U44948 Rattus norvegicus smooth muscle cell LIM protein (SmLIM) mRNA, complete cds /cds=(54,635) /gb=U44948 /gi=1314350 /ug=Rn.4267 /len=847	Nuclear.	Smooth muscle cell LIM protein (Cysteine-rich protein 2) (CRP2).

Table 2.

U47316	8569	AAH03736	8570	AF041432	8571	Q43617	8572	8339	Mus musculus, Bet3 homolog	BC003736	U47316 RNU47316 Rat R2 cerebellum DDRT-T-PCR Rattus norvegicus cDNA clone LIAREST-2, mRNA sequence [Rattus norvegicus]	Secreted.	Protein kinase C-binding protein NELL1 precursor (NELL-like protein 1).
U48246	8573	Q62919	8574	U57523	8575	Q92832	8576	8746	Protein kinase C-binding protein NELL1		U48246 Rattus norvegicus protein kinase C-binding protein Nel-homolog protein mRNA, partial cds /cds=(0,1298) /gb=U48246 /gi=1199664 /ug=Rn.10695 /len=1697		
U48246	8577	Q62919	8578	U57523	8579	Q92832	8580	8746	Protein kinase C-binding protein NELL1		U48246 Rattus norvegicus protein kinase C-binding protein Nel-homolog protein mRNA, partial cds /cds=(0,1298) /gb=U48246 /gi=1199664 /ug=Rn.10695 /len=1697	Secreted.	Protein kinase C-binding protein NELL1 precursor (NELL-like protein 1).
U48592	8581	AAB03502	8582	AF029213	8583	NP_002173	8584	8686	Interleukin-1 receptor accessory protein		U48592 Rattus norvegicus Interleukin-1 receptor accessory protein (IL-1) mRNA, complete cds /cds=(102,1814) /gb=U48592 /gi=1403699 /ug=Rn.10511 /len=1862		
U48596	8585	Q62925	8586	XM_042066	8587	XP_042066	8588	81	MAP kinase kinase kinase 1 (MEKK1)		U48596 Rattus norvegicus MAP kinase kinase kinase 1 (MEKK1) mRNA, complete cds /cds=(515,4998) /gb=U48596 /gi=1354136 /ug=Rn.11081 /len=5180	MEMBRANE ASSOCIATE D.	Mitogen-activated protein kinase kinase 1 (EC 2.7.1.-) (MAPK/ERK kinase kinase 1) (MEK kinase 1) (MEKK 1).
U48596	8589	Q62925	8590	XM_042066	8591	XP_042066	8592	81	MAP kinase kinase kinase 1 (MEKK1)		U48596 Rattus norvegicus MAP kinase kinase kinase 1 (MEKK1) mRNA, complete cds /cds=(515,4998) /gb=U48596 /gi=1354136 /ug=Rn.11081 /len=5180	MEMBRANE ASSOCIATE D.	Mitogen-activated protein kinase kinase 1 (EC 2.7.1.-) (MAPK/ERK kinase kinase 1) (MEK kinase 1) (MEKK 1).



Table 2.

U49058	8593	No Rat Protein Found.	8595	8596	No Human Protein Found.	84.52	CTD-binding SR-like protein rA4 mRNA (alternatively spliced no protein added here)	U49058 Rattus norvegicus CTD-binding SR-like protein rA4 mRNA, partial cds /cds=UNKNOWN /gb=U49058 /gi=1438635 /ug=Rn.10531 /len=4180	Attached to the membrane by a GPI-anchor.	Signal transducer CD24 precursor (Heat stable antigen) (HSA)(Nectadrin).
U49062	8594	Q07490	8595	8596	No Human Protein Found.	84.52	heat stable antigen CD24	U49062 Rattus norvegicus heat stable antigen CD24 mRNA, complete cds /cds=(59,289) /gb=U49062 /gi=1216487 /ug=Rn.6007 /len=1703	Attached to the membrane by a GPI-anchor.	Signal transducer CD24 precursor (Heat stable antigen) (HSA)(Nectadrin).
U49062	8597	Q07490	8598	8599	No Human Protein Found.	84.52	heat stable antigen CD24	U49062 Rattus norvegicus heat stable antigen CD24 mRNA, complete cds /cds=(59,289) /gb=U49062 /gi=1216487 /ug=Rn.6007 /len=1703	Attached to the membrane by a GPI-anchor.	Signal transducer CD24 precursor (Heat stable antigen) (HSA)(Nectadrin).
U49099	8600	Q62931	8601	8602	O85249	8603	Golgi SNAP receptor complex member 1	U49099 Rattus norvegicus cis-Golgi p28 (p28) mRNA, complete cds /cds=(9,761) /gb=U49099 /gi=1354151 /ug=Rn.6390 /len=2412	TYPE IV MEMBRANE PROTEIN. ENRICHED ON VESICULAR COMPONENTS AT THE TERMINAL RIMS OF THE GOLGI.	28 kDa Golgi SNARE protein (Golgi SNAP receptor complex member 1)(28 kDa cis-Golgi SNARE p28) (GOS-28).

Table 2.

U49853	8604	P35465	8605	XM_034970	XP_034970	92	protein kinase MUK2	U49853 Rattus norvegicus protein kinase MUK2 mRNA, complete cds /cds=(388,2022) /gb=U49853 /gi=1398507 /ug=Rn.9149 /len=2539	Serine/threonine protein kinase PAK 1 (EC 2.7.1.-) (p21-activated kinase 1) (PAK-1) (P68-PAK) (Alpha-PAK) (Protein kinase MUK2).
U50185	8606	AA92961	8607	XM_006578	XP_006578	79	Rattus norvegicus kidney protein phosphatase 1 myosin binding subunit mRNA, partial cds	U50185 RNU50185 Rattus norvegicus kidney protein phosphatase 1 myosin binding subunit mRNA, partial cds	
U50185	8610	AA92961	8611	XM_028840	XP_028840	37	protein phosphatase 1	U50185 RNU50185 Rattus norvegicus kidney protein phosphatase 1 myosin binding subunit mRNA, partial cds	
U50185	8614	AA92961	8615	XM_006578	XP_006578	79	Rattus norvegicus kidney protein phosphatase 1 myosin binding subunit mRNA, partial cds	U50185 RNU50185 Rattus norvegicus kidney protein phosphatase 1 myosin binding subunit mRNA, partial cds	
U50185	8618	AA92961	8619	XM_028840	XP_028840	37	protein phosphatase 1	U50185 RNU50185 Rattus norvegicus kidney protein phosphatase 1 myosin binding subunit mRNA, partial cds	
U50353	8622	AAC98551	8623	NM_021010	NP_086280	35	defensin 3a (RatNP-3a)	U50353mRNA RNU50353 Rattus norvegicus defensin 3a (RatNP-3a) gene, complete cds	

Table 2.

U50412	8628	Q63787	8627	XM_043865	8628	XP_043865	8629	87	Phosphoinositide 3-kinase p85	NM_013005	U50412 Rattus norvegicus phosphoinositide 3-kinase regulatory subunit p85alpha mRNA, alternatively spliced, complete cds /cds=(94,1368) /gb=U50412 /gi=1621037 /ug=Rn.10599 /len=1563	Phosphatidylinositol 3-kinase regulatory alpha subunit (PI3-kinase p85-alpha subunit) (Ptdlns-3-kinase p85-alpha) (PI3K).
U50738	8630	A44437	8631	BF081129	8632	A57291	8636	93.88	Cardiac ankyrin repeat protein		U50738 RNU50738 Rattus norvegicus cardiac adriamycin responsive protein mRNA, complete cds	
U51013	8633	AAC52683	8634	AF082324	8635	NP_008860	8636	87.86	Centaurin alpha		U51013 Rattus norvegicus centaurin alpha mRNA, complete cds /cds=(112,1371) /gb=U51013 /gi=1435194 /ug=Rn.10539 /len=2424	
U52530	8637	AAC53050	8638	M29366	8639	P21860	8640	70	erbB3 proto-oncogene		U52530 RNU52530 Rattus norvegicus erbB3 proto-oncogene mRNA, partial cds	
U52663	8641	AAC05807	8642	AF010472	8643	P19021	8644	88	peptidylglycine alpha-amidating monooxygenase (PAM) gene		U52663mRNA#3 RATPAM27 Rattus norvegicus peptidylglycine alpha-amidating monooxygenase (PAM) gene, exon 26	
U52950	8645	AAB17068	8646	NM_005909	8647	NP_005900	8648	89	Microtubule-associated protein 1B mRNA		U52950 RNU52950 Rattus norvegicus microtubule-associated protein 1B mRNA, partial cds	
U52950	8849	CAC16162	8650	L06237	8651	AAA18904	8652		Microtubule-associated protein 1B	X60370	U52950 RNU52950 Rattus norvegicus microtubule-associated protein 1B mRNA, partial cds	
U52950	8653	AAB17068	8654	NM_005909	8655	NP_005900	8656	89	Microtubule-associated protein 1B mRNA		U52950 RNU52950 Rattus norvegicus microtubule-associated protein 1B mRNA, partial cds	
U52950	8657	CAC16162	8658	L06237	8659	AAA18904	8660		Microtubule-associated protein 1B	X60370	U52950 RNU52950 Rattus norvegicus microtubule-associated protein 1B mRNA, partial cds	

Table 2.

U53184	8661	No Rat Protein Found.	AB034747	8662	Q99732	8663	83.41	estrogen-responsive uterine mRNA	AI237535	U53184 Rattus norvegicus estrogen-responsive uterine mRNA, partial sequence /cds=UNKNOWN /gb=U53184 /gi=1279978 /ug=Rn.8940 /len=2006		
NM_030999	8664	NP_112261	L23332	8666	P34998	8667	86	Rattus norvegicus corticotropin releasing factor receptor	U53486	U53486mRNA RNCRR 1 Rattus norvegicus corticotropin releasing factor receptor gene, exon 1		
U53706	8668	Q62867	NM_002461	8670	P53602	8671	78	mevalonate pyrophosphate decarboxylase		U53706 Rattus norvegicus mevalonate pyrophosphate decarboxylase mRNA, complete cds /cds=(42,1247) /gb=U53706 /gi=1287191 /ug=Rn.10288 /len=1674	Diphosphomevalonate decarboxylase (EC 4.1.1.33) (Mevalonate pyrophosphate decarboxylase) (Mevalonate (diphospho)dec arboxylase).	
U53922	8672	P54102	BC008182	8674	P31689	8675	92.87	DnaJ-like protein (RDJ1) mRNA, complete cds		U53922 Rattus norvegicus DnaJ-like protein (RDJ1) mRNA, complete cds /cds=(121,1314) /gb=U53922 /gi=1294829 /ug=Rn.10276 /len=1610	DnaJ homolog subfamily A member 1 (Heat shock 40 kDa protein 4) (DnaJprotein homolog 2) (HSJ-2).	Membrane-bound.

Table 2.

U54632	8676	P50550	8677	U29092	8678	P50550	8679	93.2	Ubiquitin conjugating enzyme E2I	U54632 RNU54632 Rattus norvegicus ubiquitin-conjugating enzyme UbcE2A mRNA, complete cds	Ubiquitin-like protein SUMO-1 conjugating enzyme (EC 6.3.2.19) (SUMO-1- protein ligase) (Ubiquitin carrier protein) (Ubiquitin- conjugating enzy- me UbcE2A) (P18).
U54632	8680	P50550	8681	U29092	8682	P50550	8683	93.2	Ubiquitin conjugating enzyme E2I	U54632 RNU54632 Rattus norvegicus ubiquitin-conjugating enzyme UbcE2A mRNA, complete cds	Ubiquitin-like protein SUMO-1 conjugating enzyme (EC 6.3.2.19) (SUMO-1- protein ligase) (Ubiquitin carrier protein) (Ubiquitin- conjugating enzy- me UbcE2A) (P18).
U55815	8684	AAC52 634	8685	AK024493	8686	NP_005 063	8687	92.81	Solute carrier family 12, member 4	U55815 Rattus norvegicus furosemide- sensitive K-Cl cotransporter (KCC1) mRNA, complete cds /cds=(0,3257) /gb=U55815 /gi=1403706 /ug=Rn.10512 /len=3726	
U55815	8688	AAC52 634	8689	AK024493	8690	NP_005 063	8691	92.81	Furosemide- sensitive K-Cl cotransporter	U55815 Rattus norvegicus furosemide- sensitive K-Cl cotransporter (KCC1) mRNA, complete cds /cds=(0,3257) /gb=U55815 /gi=1403706 /ug=Rn.10512 /len=3726	

Table 2.

U55815	8692	AAC52 634	8693	AK024493	8694	NP_005 063	8695	92.81	Solute carrier family 12, member 4		U55815 Rattus norvegicus furosemide- sensitive K-Cl cotransporter (KCC1) mRNA, complete cds /cds=(0,3257) /gb=U55815 /gi=1403706 /ug=Rn.10512 /len=3726		
U56839	8698	P41232	8697	BC012104	8698	P41231	8699	87	Purinergic receptor P2Y, G-protein coupled 2		U56839 Rattus norvegicus P2u receptor protein mRNA, complete cds /cds=(141,1265) /gb=U56839 /gi=1338124 /ug=Rn.11102 /len=1888	Integral membrane protein.	P2Y purinoreceptor 2 (P2Y2) (P2U purinoreceptor 1) (P2U1) (ATP receptor)(Purine receptor).
U56862	8700	Q62881	8701	AL542378	8702	Q15072	8703	89.47	Pancreas zinc finger protein		U56862 RNU56862 Rattus norvegicus pancreas only zinc finger protein (POZF-1) mRNA, complete cds	Nuclear	Zinc finger protein OZF (POZF-1).
U57391	8704	AAC52 601	8705	AB037720	8706	AAF739 12	8707	89.47	FcεRI gamma- chain interacting protein SH2-B		U57391 Rattus norvegicus FcεRI gamma- chain interacting protein SH2-B (SH2-B) mRNA, complete cds /cds=(343,2613) /gb=U57391 /gi=1354854 /ug=Rn.11069 /len=3003		
U57391	8708	AAC52 601	8709	AB037720	8710	AAF739 12	8711	89.47	FcεRI gamma- chain interacting protein SH2-B		U57391 Rattus norvegicus FcεRI gamma- chain interacting protein SH2-B (SH2-B) mRNA, complete cds /cds=(343,2613) /gb=U57391 /gi=1354854 /ug=Rn.11069 /len=3003		
U57715	8712	AAB070 50	8713	XM_05287 1		XP_052 871		88	FGF receptor activating protein FRAG1		U57715 Rattus norvegicus FGF receptor activating protein FRAG1 (FRAG1) mRNA, complete cds /cds=(722,1486) /gb=U57715 /gi=1518608 /ug=Rn.11001 /len=1719		
U59241	8714	AAC52 865	8715	M177016	8716	P28289	8717	89.04	E- Tropomodulin		U59241 Rattus norvegicus E-tropomodulin mRNA, complete cds /cds=(49,1128) /gb=U59241 /gi=1628560 /ug=Rn.10605 /len=1353		

Table 2.

U59241	8718	AAC52 865	8719	M77016	8720	P28289	8721	89.04	E- Tropomodulin		U59241 Rattus norvegicus E-tropomodulin mRNA, complete cds /cds=(49,1128) /gb=U59241 /gi=1828680 /ug=Rn.10605 /len=1353
U59672	8722	AAB182 93	8723	AJ003078	8724	P46098	8725	84.68	5- Hydroxytrypta mine (serotonin) receptor 3A		U59672 Rattus norvegicus 5HT3 receptor mRNA, complete cds /cds=(347,1780) /gb=U59672 /gi=1389902 /ug=Rn.761 /len=2230
U59672	8726	AAB182 93	8727	AJ003078	8728	P46098	8729	84.68	5- Hydroxytrypta mine (serotonin) receptor 3A		U59672 Rattus norvegicus 5HT3 receptor mRNA, complete cds /cds=(347,1780) /gb=U59672 /gi=1389902 /ug=Rn.761 /len=2230
U60578	8730	AAC53 104	8731	NM_0000 67	8732	P00918	8733	80	Carbonic anhydrase II	NM_01929 1	U60578cds RNCAI18 Rattus norvegicus carbonic anhydrase II gene, exon 7 and partial cds
U60882	8734	Q63009	8735	AK026786	8736	XP_046 320	8737	93.07	protein arginine N- methyltransfer ase		U60882 Rattus norvegicus protein arginine N- methyltransferase (PRMT1) mRNA, complete cds /cds=(2,1063) /gb=U60882 /gi=1390024 /ug=Rn.5870 /len=1201
U61184	8738	P41739	8739	AF001307	8740	P27540	8741	92.25	Aryl hydrocarbon receptor nuclear translocator 1		U61184 Rattus norvegicus aryl hydrocarbon receptor nuclear translocator 1 (Ahr1) mRNA, complete cds /cds=(8,2410) /gb=U61184 /gi=1418281 /ug=Rn.10620 /len=2431

Protein arginine  
N-  
methyltransferase  
1 (EC 2.1.1.-  
).  
"Aryl  
hydrocarbon  
receptor nuclear  
translocator  
(ARNT protein)  
(Dioxin receptor,  
nuclear  
translocator)  
(Hypoxia-  
inducible factor  
1 beta)(HIF-1  
beta)."

Nuclear.  
Nuclear.

Table 2.

U61373	8742	Q63645	8743	BC012453	8744	P55085	8745	83.71	proteinase-activated receptor-2	U61373 Rattus norvegicus proteinase-activated receptor-2 mRNA, complete cds /cds=(0,1193) /gb=U61373 /gi=1480987 /ug=Rn.10543 /len=1428	Integral membrane protein.	Proteinase activated precursor 2 (PAR-2) (Thrombin receptor-like 1) (Coagulation factor II receptor like 1).
U61729	8746	AAB09057	8747	AW974441	8748	NP_006804	8749	91.26	Rattus norvegicus proline rich protein mRNA, complete cds	U61729 Rattus norvegicus proline rich protein mRNA, complete cds /cds=(175,984) /gb=U61729 /gi=1408276 /ug=Rn.10887 /len=1619		
U62316	8750	Q63344	8751	AF058058	8752	O60869	8753	82.72	Solute carrier family 16 (monocarboxylic acid transporters), member 7	U62316 Rattus norvegicus monocarboxylate transporter 2 (MCT2) mRNA, complete cds /cds=(234,1703) /gb=U62316 /gi=1432166 /ug=Rn.10524 /len=2481	Integral membrane protein. Plasma membrane.	Monocarboxylate transporter 2 (MCT 2).
U62316	8754	Q63344	8755	AF058056	8756	O60869	8757	82.72	Solute carrier family 16 (monocarboxylic acid transporters), member 7	U62316 Rattus norvegicus monocarboxylate transporter 2 (MCT2) mRNA, complete cds /cds=(234,1703) /gb=U62316 /gi=1432166 /ug=Rn.10524 /len=2481	Integral membrane protein. Plasma membrane.	Monocarboxylate transporter 2 (MCT 2).
U62635	8758	AAB05795	8759	U26596	8760	NP_068957	8761	84.8	ribosomal protein L23-related product	U62635 RRU62635 Rattus rattus ribosomal protein L23-related product homolog (rL23MRP) mRNA, complete cds		



Table 2.

U63740	8762	P97577	8763	U60060	8764	Q99889	8765	92.59	Synaptotagmin binding zygini	U63740 Rattus norvegicus synaptotagmin binding zygini mRNA, complete cds /cds=(154,1335) /gb=U63740 /gi=1778068 /ug=Rn.5468 /len=1883	INTRACELLULAR. TRANSLOCATED FROM THE PLASMA MEMBRANE TO THE CYTOPLASM BY ACTIVATION OF THE PKC ZETA.	Fasciculation and elongation protein zeta 1 (Zygin I).
U63972	8766	Q63652	8767	NM_001708	8768	P03999	8769	87.23	Blue cone opsin-like pigment	U63972 Rattus norvegicus blue cone opsin-like pigment mRNA, complete cds /cds=(48,1088) /gb=U63972 /gi=1488319 /ug=Rn.10548 /len=1890	Integral membrane protein.	Blue-sensitive cone photoreceptor pigment).
U64030	8770	P70583	8771	NM_001948	8772	P33316	8773	87	dUTPase	U64030 Rattus norvegicus dUTPase mRNA, complete cds /cds=(13,624) /gb=U64030 /gi=1654341 /ug=Rn.6102 /len=928	CYTOPLASMIC. BINDING TO PPAR INDUCES TRANSLOCATION TO THE NUCLEUS.	Deoxyuridine 5'-triphosphate nucleotidohydrolyase (EC 3.6.1.23)(dUTPase) (dUTP pyrophosphatase) (PPAR-e) Interacting protein 4) (PIP4).
U64689	8774	P97578	8775	U69140	8776	Q9UHY8	8777	84	Rattus norvegicus zyglin-related protein type II (Zrp2) mRNA, partial cds	U64689 RNU64689 Rattus norvegicus synaptotagmin interacting protein zygini mRNA, partial cds	Fasciculation and elongation protein zeta 2 (Zygin II) (Zygin-related protein types I/II) (Fragment).	

Table 2.

U65007	8778	P97523	8779	U11813	8780	P06581	8781	92.61	[Met proto-oncogene	U65007 Rattus norvegicus hepatocyte growth factor receptor mRNA, complete cds /cds=(0,4148) /gb=U65007 /gi=1678659 /ug=Rn.10617 /len=4189	Type I membrane protein.	Hepatocyte growth factor receptor precursor (EC 2.7.1.112) (Met proto-oncogene tyrosine kinase) (c-met) (HGF-receptor) (HGF-SF receptor).
U65217	8782	AAB39559	8783	M16276	8784	P01919	8785	72	class II antigen RT1.B beta chain	U65217 Rattus norvegicus MHC class II antigen RT1.B beta chain mRNA, partial cds /cds=(0,590) /gb=U65217 /gi=1762639 /ug=Rn.16105 /len=620		
U65417	8786	AAB49752	8787	NM_006143	8788	NP_006134	8789	92	Rattus norvegicus G protein-coupled receptor (GPR19) gene, partial cds	U65417cds RNU65417 Rattus norvegicus G protein-coupled receptor (GPR19) gene, partial cds		
U65656	8790	P33436	8791	AU123141	8792	P05455	8793	90.29	Rattus norvegicus gelatinase A mRNA, complete cds	U65656 Rattus norvegicus gelatinase A mRNA, complete cds /cds=(291,2279) /gb=U65656 /gi=1813502 /ug=Rn.6422 /len=3040		72 kDa type IV collagenase precursor (EC 3.4.24.24) (72 kDagelatinase) (Matrix metalloproteinase-2) (MMP-2) (Gelatinase A).
U66470	8794	AAC52950	8795	U66468	8796	XP_002427	8797	80.05	cell growth regulator rCGR11	U66470 Rattus norvegicus cell growth regulator rCGR11 mRNA, complete cds /cds=(59,904) /gb=U66470 /gi=1724074 /ug=Rn.10638 /len=1257		

Table 2.

U66471	8798	AAC52 951	8799	U66469	8800	NP_006 559	8801	87.88	Rattus norvegicus cell growth regulator rCGR19 mRNA, complete cds	U66471 Rattus norvegicus cell growth regulator rCGR19 mRNA, complete cds /cds=(100,1098) /gb=U66471 /gi=1724076 /lug=Rn.11138 /len=1265				
U66471	8802	AAC52 951	8803	U66469	8804	NP_006 559	8805	87.88	Rattus norvegicus cell growth regulator rCGR19 mRNA, complete cds	U66471 Rattus norvegicus cell growth regulator rCGR19 mRNA, complete cds /cds=(100,1098) /gb=U66471 /gi=1724076 /lug=Rn.11138 /len=1265				
U66478	8806	P97588	8807	U59423	8808	Q15797	8809	98	MAD (mothers against decapentaplegic, Drosophila) homolog 1	U66478 Rattus norvegicus mothers against dpp 1 homolog (Mad1) mRNA, complete cds /cds=(315,1721) /gb=U66478 /gi=1710128 /lug=Rn.10635 /len=2002	IN THE CYTOPLAS M IN THE ABSENCE OF LIGAND; MIGRATION TO THE NUCLEUS WHEN COMPLEXE D WITH SMAD4 .	Mothers against decapentaplegic homolog 1 (SMAD 1) (Mothers againstDPP homolog 1).		
U66478	8810	P97588	8811	U59423	8812	Q15797	8813	98	MAD (mothers against decapentaplegic, Drosophila) homolog 1	U66478 Rattus norvegicus mothers against dpp 1 homolog (Mad1) mRNA, complete cds /cds=(315,1721) /gb=U66478 /gi=1710128 /lug=Rn.10635 /len=2002	IN THE CYTOPLAS M IN THE ABSENCE OF LIGAND; MIGRATION TO THE NUCLEUS WHEN COMPLEXE D WITH SMAD4 .	Mothers against decapentaplegic homolog 1 (SMAD 1) (Mothers againstDPP homolog 1).		

Table 2.

U67081	8814	AAB40718	8815	AK057398	8816	AAF14051	8817	93.21	C2-HC type zinc finger protein r-MyT2 mRNA	U67081 Rattus norvegicus C2-HC type zinc finger protein r-MyT2 mRNA, complete cds /cds=(0,2448) /gb=U67081 /gi=1631646 /ug=Rn.10559 /len=2812	Membrane-associated.	Disks large-associated protein 4 (DAP-4) (SAP80/PSD-95-associated protein n 4) (SAPAP4) (PSD-95/SAP80 blinding protein 4).
U67140	8818	P07839	8819	XM_028634		XP_028634		73	PSD-95/SAP80-associated protein-4	U67140 Rattus norvegicus PSD-95/SAP80-associated protein-4 mRNA, complete cds /cds=(204,3182) /gb=U67140 /gi=1864082 /ug=Rn.11279 /len=3348		
U67207	8820	S74225			8821	P48357	8822	78	Leptin receptor (fatty)	U67207 RNU67207 Rattus norvegicus leptin receptor (OB-R) mRNA, partial cds		
U67910	8823	P27435	8824	M30038	8825	P15157	8826	88.21	Mast cell protease 7 (RMCP-7)	U67910 Rattus norvegicus mast cell protease 7 (RMCP-7) mRNA, complete cds /cds=(216,1037) /gb=U67910 /gi=1698699 /ug=Rn.10698 /len=1222	RELEASED FROM THE SECRETORY GRANULES UPON MAST CELL ACTIVATION	"Mast cell protease 7 precursor (EC 3.4.21.59) (RMCP-7) (Tryptase, skin)."
U67915	8827	P09650	8828	M59136	8829	P23946	8830	85	Mast cell protease 1 precursor	U67915 Rattus norvegicus mast cell protease 1 precursor (RMCP-1) mRNA, complete cds /cds=(27,809) /gb=U67915 /gi=1698709 /ug=Rn.10701 /len=1018		Mast cell protease 1 precursor (EC 3.4.21.39) (RMCP-1) (Chymase).

Table 2.

U67984	8831	AAB396 19	8832	X74330	8833	P49642	8834	90.27	Rattus norvegicus DNA primase small subunit mRNA, partial cds	U67984 Rattus norvegicus DNA primase small subunit mRNA, partial cds /cds=(0,91) /gb=U67984 /gi=1763024 /ug=Rn.10649 /len=410			
U68272	8835	AAB170 55	8836	AF056979	8837	P15260	8838	42	Interferon gamma receptor heart branched chain amino transfer ase precursor (BCATm) mRNA, nuclear gene encoding mitochondrial protein	U68272 RNU68272 Rattus norvegicus interferon gamma receptor mRNA, partial cds			
U68417	8839	O35854	8840	BC001900	8841	O15382	8842	81	Interferon gamma receptor heart branched chain amino transfer ase precursor (BCATm) mRNA, nuclear gene encoding mitochondrial protein	U68417 Rattus norvegicus heart branched chain amino transferase precursor (BCATm) mRNA, nuclear gene encoding mitochondrial protein, complete cds /cds=(7,1188) /gb=U68417 /gi=2342863 /ug=Rn.981 /len=1548	Mitochondrial	"Branched-chain amino acid aminotransferas e, mitochondrial precursor(EC 2.6.1.42) (BCAT(m))."	
U68562	8843	U68562	8844	No human homolog found.		No Human Protein Found.			Rat chaperonin 60 (Hsp60) and chaperonin 10 (CPN10) two genes on a bidirectional promoter	U68562mRNA#2 RNU68562 Rattus norvegicus chaperonin 60 (Hsp60) and chaperonin 10 (CPN10) genes, nuclear genes encoding mitochondrial proteins, complete cds			
U70211	8845	AAC53 322	8846	BI767712	8847	NP_057 421	8848	92.22	RNB6	U70211 Rattus norvegicus RNB6 mRNA, complete cds /cds=(218,1398) /gb=U70211 /gi=2058461 /ug=Rn.9790 /len=1838			
U70270	8849	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Rattus norvegicus mud-4 mRNA, 3' UTR	U70270UTR#1 RNMUD402 Rattus norvegicus mud-4 mRNA, 3 UTR			

Table 2.

U70779	8850	AAB477 48	8851	NM_0035 86	8852	NP_003 577	8853	73	Doc2A	U70779 Rattus norvegicus Doc2A mRNA, complete cds /cds=(212,1423) /gb=U70779 /gi=1575773 /ug=Rn.10690 /len=1600	MITOCHON DRIAL MEMBRANE S AND PERINUCLE AR ENVELOPE	Apoptosis regulator Bcl-x.
U72350	8854	P53563	8855	XM_04622 0		XP_046 220		91	Rattus norvegicus Bcl xalpha mRNA, complete cds	U72350 Rattus norvegicus Bcl-xalpha mRNA, complete cds /cds=(71,772) /gb=U72350 /gi=1622936 /ug=Rn.10323 /len=1742		
U72497	8856	P97612	8857	AL050372	8858	O00519	8859	87.61	Fatty acid amide hydrolase	U72497 Rattus norvegicus fatty acid amide hydrolase mRNA, complete cds /cds=(49,1788) /gb=U72497 /gi=1680721 /ug=Rn.10619 /len=2462	MEMBRANE- BOUND. SEEMS TO BE ASSOCIATE D WITH THE ENDOPLAS MIC RETICULUM AND/OR GOLGI APPARATU S.	Fatty-acid amide hydrolase (EC 3.1.-.-) (Oleamide hydrolase)(Anan damide amidohydrolase ).
U72741	8860	P97840	8861	AA610306	8862	O00182	8863	88.89	Lectin, galactose binding, soluble 9 (Galectin-9)*	U72741 Rattus norvegicus 36 Kd beta- galactoside binding lectin mRNA, complete cds /cds=(5,1069) /gb=U72741 /gi=2351552 /ug=Rn.10706 /len=1070	CYTOPLAS MIC. MAY ALSO BE SECRETED BY A NON- CLASSICAL SECRETOR Y PATHWAY	Galectin-9 (36 kDa beta- galactoside binding lectin) (Urate transporte r/channel) (UAT).

Table 2.

U72995	8864	AAC53 149	8865	AB002356	8866	XP_006 166	8867	94.55	Rab3 GDP/GTP exchange protein	U72995 Rattus norvegicus Rab3 GDP/GTP exchange protein mRNA, complete cds /cds=(191,4998) /gb=U72995 /gi=1847049 /ug=Rn.9786 /len=5249		Mitogen- activated protein kinase 14 (EC 2.7.1.-) (Mitogen- activated protein kinase p38) (MAP kinase p38).
U73142	8868	P70618	8869	L35263	8870	Q16539	8871	91.28	p38 mitogen activated protein kinase	U73142 Rattus norvegicus p38 mitogen activated protein kinase mRNA, complete cds /cds=(11,1093) /gb=U73142 /gi=1821646 /ug=Rn.3293 /len=3132		Mitogen- activated protein kinase 14 (EC 2.7.1.-) (Mitogen- activated protein kinase p38) (MAP kinase p38).
U73142	8872	P70618	8873	L35263	8874	Q16539	8875	91.28	p38 mitogen activated protein kinase	U73142 Rattus norvegicus p38 mitogen activated protein kinase mRNA, complete cds /cds=(11,1093) /gb=U73142 /gi=1821646 /ug=Rn.3293 /len=3132		Mitogen- activated protein kinase 14 (EC 2.7.1.-) (Mitogen- activated protein kinase p38) (MAP kinase p38).
U73174	8876	AAB181 32	8877	XM_00511 9		1GRT	8878	84	Rattus norvegicus glutathione reductase mRNA, complete cds	U73174 RNU73174 Rattus norvegicus glutathione reductase mRNA, complete cds		
U73174	8879	AAB181 32	8880	XM_00511 9		1GRT	8881	84	Rattus norvegicus glutathione reductase mRNA, complete cds	U73174 RNU73174 Rattus norvegicus glutathione reductase mRNA, complete cds		

Table 2.

U73174	8882	AAB181 32	8883	XM_005111 9	1GRT	8884	84	Rattus norvegicus glutathione reductase mRNA, complete cds	U73174 RNU73174 Rattus norvegicus glutathione reductase mRNA, complete cds		
U73525	8885	P97615	8886	XM_03864 4	XP_038 844		87	Trx2	U73525 Rattus norvegicus thioredoxin mRNA, nuclear gene encoding mitochondrial protein, complete cds /cds=(55,555) /gb=U73525 /gi=1809118 /ug=Rn.967 /len=1261	Mitochondrial	Thioredoxin, mitochondrial precursor (Mt- TRX) (Thioredoxin 2)."
U75392	8887	AAB187 47	8888	NM_0072 73	8889 NP_009 204	8890	80	B-cell receptor associated protein 37	U75392 RNBP2 B-cell receptor associated protein 37 (BAP-37) mRNA, partial cds and 3 untranslated sequence		
U75916	8891	g18391 62		AK025185	8892 g592440 8		93.02	Rattus norvegicus zonula occludens 2 protein (ZO-2) mRNA, partial cds	U75916 Rattus norvegicus zonula occludens 2 protein (ZO-2) mRNA, partial cds /cds=(0,2443) /gb=U75916 /gi=1839161 /ug=Rn.10886 /len=3328		
U75920	8893	AAB818 85	8894	NM_0123 25	8895 Q15691	8896	95	APC binding protein EB1	U75920 RNAPCBP1 Rattus norvegicus APC binding protein EB1 mRNA, complete cds		
U75923	8897	AAB818 86	8898	No human homolog found.	No Human Protein Found.			Isoleucyl tRNA synthetase mRNA, partial cds and 3' untranslated sequence	U75923UTR#1 SEG_RNTRNAIS3 Rattus norvegicus isoleucyl tRNA synthetase mRNA, partial cds and 3' untranslated sequence		
U75927	8899	NP_071 948	8900	NM_0018 65	8901 P14406	8902	81	Cytochrome c oxidase subunit VIIa 3	U75927UTR#1 RNCOVI12 Rattus norvegicus cytochrome oxidase subunit VIIa mRNA, 3 untranslated region, partial sequence		



Table 2.

U75973	8903	P70627	8904	AF254357	8905	Q04609	8906	89.81	NAAG-peptidase	U75973 Rattus norvegicus NAAG-peptidase mRNA, complete cds /cds=(22,2280) /gb=U75973 /gi=1661226 /ug=Rn.10609 /len=2899	Type II membrane protein. Plasma membrane .	Glutamate carboxypeptidase II (EC 3.4.17.21) (Membrane glutamatecarboxypeptidase) (mGCP) (N-acetylated-alpha linked acidic dipeptidase) (NAALADase I) (Pteroylpolyl-gamma-glutamate carboxypeptidase)(Fo)
U76206	8907	O35881	8908	D13626	8909	Q15391	8910	81.37	Rattus norvegicus VTR 15-20 receptor mRNA, complete cds /cds=(238,1155) /gb=U76206 /gi=2458584 /ug=Rn.16317 /len=1690	U76206 Rattus norvegicus VTR 15-20 receptor mRNA, complete cds /cds=(238,1155) /gb=U76206 /gi=2458584 /ug=Rn.16317 /len=1690	Integral membrane protein.	UDP-glucose receptor (G protein-coupled receptor GPR105) (VTR 15-20).
U76252	8911	P07314	8912	AL117414	8913	P36269	8914	87.03	Gamma-glutamyl transpeptidase-related enzyme mRNA, partial cds	U76252 RNU76252 Rattus norvegicus gamma glutamyl transpeptidase-related enzyme mRNA, partial cds		
U76557	8915	P56558	8916	XM_047694		XP_047694		88	O-GlcNAc transferase	U76557 Rattus norvegicus O-GlcNAc transferase, p110 subunit (OGT) mRNA, complete cds /cds=(311,3421) /gb=U76557 /gi=1931578 /ug=Rn.9782 /len=4039	NUCLEAR AND CYTOPLASMIC (POSSIBLE).	UDP-N-acetylglucosaminyl-peptide N-acetylglucosaminyltransferase 110kDa subunit (EC 2.4.1.-) (O-GlcNAc transferase p110 subunit).

Table 2.

U76714	8917	AAD00 280	8918	AK002038	8919	NP_055 400	8920	91.59	Rattus norvegicus cell adhesion regulator (CAR1) mRNA, complete cds	U76714 RRU76714 Rattus norvegicus cell adhesion regulator (CAR1) mRNA, complete cds
U76714	8921	AAD00 260	8922	AK002038	8923	NP_055 400	8924	91.59	Rattus norvegicus cell adhesion regulator (CAR1) mRNA, complete cds	U76714 RRU76714 Rattus norvegicus cell adhesion regulator (CAR1) mRNA, complete cds
U77483	8925	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			guanine nucleotide- binding protein (Gz-alpha)	U77483mRNA RNGZAL2 Rattus norvegicus guanine nucleotide-binding protein (Gz-alpha) gene, exon 1 and 5 flanking region
U77583	8926	AAB192 28	8927	XM_04699 5		XP_046 995		83	casein kinase I alpha L	U77583 Rattus norvegicus casein kinase I alpha L (CKIaL) mRNA, complete cds /cds=(0,1061) /gb=U77583 /gi=1679789 /ug=Rn.12208 /len=1082
U77626	8928	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			formin binding protein 21 mRNA	U77626UTR#1 RNFBP21S2 Rattus norvegicus formin binding protein 21 mRNA, partial 3 UTR
U77829	8929	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			gas-5 growth arrest homolog	U77829mRNA RNU77829 Rattus norvegicus gas-5 growth arrest homolog non-translated mRNA sequence
U77829	8930	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			gas-5 growth arrest homolog	U77829mRNA RNU77829 Rattus norvegicus gas-5 growth arrest homolog non-translated mRNA sequence
U77931	8931	AAK219 74	8932		No human homolog found.	No Human Protein Found.			rRNA promoter binding protein	U77931 RNU77931 Rattus norvegicus unknown mRNA

Table 2.

U77933	8933	AAB993 79	8934	AF314175	8935	P42575	8936	90.99	Nedd2/lch-1	U77933 Rattus norvegicus Nedd2/lch-1 mRNA, complete cds /cds=(6,1364) /gb=U77933 /gi=2769705 /ug=Rn.1438 /len=3352
U78090	8937	AAC34 249	8938	AK023061	8939	XP_050 190		90.12	potassium channel regulator 1	U78090 RNU78090 Rattus norvegicus potassium channel regulator 1 mRNA, complete cds
U78517	8940	AAD03 423	8941	XM_00243 7	8942	XP_002 437	8943	95	Rattus norvegicus cAMP-regulated guanine nucleotide exchange factor II (cAMP-GEFII)	U78517 RNU78517 Rattus norvegicus cAMP-regulated guanine nucleotide exchange factor II (cAMP-GEFII) mRNA, partial cds
U78517	8944	AAD03 423	8945	XM_00243 7	8946	XP_002 437	8947	95	Rattus norvegicus cAMP-regulated guanine nucleotide exchange factor II (cAMP-GEFII)	U78517 RNU78517 Rattus norvegicus cAMP-regulated guanine nucleotide exchange factor II (cAMP-GEFII) mRNA, partial cds
U78977	8948	AAC05 244	8949	AB014511	8950	O75110	8951	88.63	putative ATPase	U78977 Rattus norvegicus putative ATPase mRNA, partial cds /cds=(0,827) /gb=U78977 /gi=2844138 /ug=Rn.11016 /len=936
U78977	8952	AAC05 244	8953	AB014511	8954	O75110	8955	88.63	putative ATPase	U78977 Rattus norvegicus putative ATPase mRNA, partial cds /cds=(0,827) /gb=U78977 /gi=2844138 /ug=Rn.11016 /len=936

Table 2.

U79417	8956	AAC53 086	8957	BE939943	8958	NP_006 535	8959	92.81	71 kDa component of reecf/8 secretory complex p71	U79417 RNU79417 Rattus norvegicus 71 kDa component of reecf/8 secretory complex p71 mRNA, complete cds
U79568	8960	AAB504 03	8961	XIM_00824 9	8962	XP_008 249	8963	63	Voltage- dependent sodium channel PN1 mRNA, partial cds	U79568 RNU79568 Rattus norvegicus voltage-dependent sodium channel PN1 mRNA, partial cds
U81035	8964	AAB477 53	8965	AB018289	8966	BAA344 76	8967	92	ankyrin binding cell adhesion molecule neurofascin	U81035 RNU81035 Rattus norvegicus ankyrin binding cell adhesion molecule neurofascin mRNA, partial cds
U81037	8968	AAB477 55	8969	AJ001057	8970	NP_005 001	8971	90.83	Ankyrin binding cell adhesion molecule NCAM	U81037 Rattus norvegicus ankyrin binding cell adhesion molecule NCAM (NCAM) mRNA, alternatively spliced form, partial cds /cds=(0,3847) /gb=U81037 /gl=1842430 /lug=Rn.10891 /len=4044
U81186	8972	AAD00 504	8973	NIM_0161 42	8974	NP_057 226	8975	83	Smooth muscle- specific 17 beta- hydroxysteroid dehydrogenas e type 3	U81186 RRU81186 Rattus norvegicus smooth muscle-specific 17beta- hydroxysteroid dehydrogenase type 3 mRNA, complete cds
U81186	8976	AAD00 504	8977	NIM_0161 42	8978	NP_057 226	8979	83	Smooth muscle- specific 17 beta- hydroxysteroid dehydrogenas e type 3	U81186 RRU81186 Rattus norvegicus smooth muscle-specific 17beta- hydroxysteroid dehydrogenase type 3 mRNA, complete cds

Table 2.

U81186	8980	AAD00 504	8981	NM_0161 42	8982	NP_057 226	8983	83	Smooth muscle- specific 17 beta- hydroxysteroid dehydrogenas e type 3	U81186 RRU81186 Rattus norvegicus smooth muscle-specific 17beta- hydroxysteroid dehydrogenase type 3 mRNA, complete cds
U81186	8984	AAD00 504	8985	NM_0161 42	8986	NP_057 226	8987	83	Smooth muscle- specific 17 beta- hydroxysteroid dehydrogenas e type 3	U81186 RRU81186 Rattus norvegicus smooth muscle-specific 17beta- hydroxysteroid dehydrogenase type 3 mRNA, complete cds
U82623	8988	AAB915 37	8989	AA029488	8990	NP_006 779	8991	91.72	cytochrome	U82623 Rattus norvegicus cytochrome mRNA, complete cds /cds=(19,2200) /gb=U82623 /gi=2697021 /ug=Rn.7107 /len=3602
U82626	8992	AAB863 42	8993	XM_04531 9		XP_045 319		88	Chondroitin sulfate	U82626 Rattus norvegicus basement membrane-associated chondroitin proteoglycan Bamacan mRNA, complete cds /cds=(86,3684) /gb=U82626 /gi=1785539 /ug=Rn.11074 /len=4104
U83119	8994	AAB412 24	8995	M80340	8996	AAA516 22	8997	63	Rat genomic clone (ORF2)	U83119 RNU83119 Rattus norvegicus L1 retrotransposon ORF2 mRNA, consensus sequence, partial cds
U83883	8998	AAB414 39	8999	BG542891	9000	XP_011 618	9001	90.89	p105 coactivator	U83883 Rattus norvegicus p105 coactivator mRNA, complete cds /cds=(23,2865) /gb=U83883 /gi=1800306 /ug=Rn.5481 /len=3166
U83883	9002	AAB414 39	9003	BG542891	9004	XP_011 618	9005	90.89	p105 coactivator	U83883 Rattus norvegicus p105 coactivator mRNA, complete cds /cds=(23,2865) /gb=U83883 /gi=1800306 /ug=Rn.5481 /len=3166
U83895	9006	P97694	9007	NM_0047 62	9008	Q15438	9009	98	sec7A	U83895 Rattus norvegicus sec7A mRNA, complete cds /cds=(75,1271) /gb=U83895 /gi=1800314 /ug=Rn.10672 /len=1399
										Cytohesin 1 (SEC7 homolog A) (msec7-1).

M13101

Table 2.

U83896	9010	P97695	9011	AA371941	9012	Q99418	9013	94.44	yeast sec7B	U83896 Rattus norvegicus sec7B mRNA, complete cds /cds=(187,1389) /gb=U83896 /gi=1800316 /ug=Rn.3732 /len=1561	Cytoshesin 2 (ARF nucleotide-binding site opener) (ARNO protein) (CLM2)(SEC7 homolog B) (msec7-2).
U84410	9014	P55213	9015	U26943	9016	P42574	9017	85.2	cysteine protease CPP32	U84410 RNU84410 Rattus norvegicus interleukin-1beta-converting enzyme-related protease CPP32 mRNA, complete cds	Cytoplasmic. Apopain precursor (EC 3.4.22.-) (Cysteine protease CPP32) (Yama protein) (CPP-32) (Caspase-3) (CASP-3) (SREBP cleavage activity 1)(SCA-1) (LICE) (IRP).
U86635	9018	A29036	9019	BC000088	9020	P21266	9021	87.35	Glutathione S-transferase, mu 5	U86635 RNU86635 Rattus norvegicus glutathione s-transferase M5 mRNA, complete cds	
U86635	9022	A29036	9023	BC000088	9024	P21266	9025	87.35	Glutathione S-transferase, mu 5	U86635 RNU86635 Rattus norvegicus glutathione s-transferase M5 mRNA, complete cds	
U86635	9026	A29036	9027	BC000088	9028	P21266	9029	87.35	Glutathione S-transferase, mu 5	U86635 RNU86635 Rattus norvegicus glutathione s-transferase M5 mRNA, complete cds	
U87306	9030	AAB57679	9031	AK022859	9032	AAC67491	9033	88.74	Transmembrane receptor Unc5H2	U87306 RNU87306 Rattus norvegicus transmembrane receptor Unc5H2 mRNA, complete cds	

Table 2.

U87971	9034	AAB938 44	9035	NM_0031 64	9036	Q13190	9037	95	Syntaxin 5a	U87971 RNU87971 Rattus norvegicus syntaxin 5 mRNA, partial cds
U87971	9038	AAB938 44	9039	NM_0031 64	9040	Q13190	9041	95	Syntaxin 5a	U87971 RNU87971 Rattus norvegicus syntaxin 5 mRNA, partial cds
U88958	9042	AAB534 15	9043	AF136631	9044	NP_057 672	9045	95.5	Rattus norvegicus neurtin mRNA, complete cds	U88958 Rattus norvegicus neurtin mRNA, complete cds /cds=(188,616) /gb=U88958 /gi=2062677 /ug=Rn.3546 /len=1614
U88958	9046	AAB534 15	9047	AF136631	9048	NP_057 672	9049	95.5	Rattus norvegicus neurtin mRNA, complete cds	U88958 Rattus norvegicus neurtin mRNA, complete cds /cds=(188,616) /gb=U88958 /gi=2062677 /ug=Rn.3546 /len=1614
U88986	9050	T34258		U38545	9051	Q13393	9052	88	Phospholipase D gene 1	U88986 RNU88986 Rattus norvegicus phospholipase D 1 mRNA, partial cds
U89282	9053	AAB516 90	9054	U86136	9055	XP_007 488	9056	87.5	telomerase protein component 1 (TLP1)	U89282 Rattus norvegicus telomerase protein component 1 (TLP1) mRNA, complete cds /cds=(199,8086) /gb=U89282 /gi=1932816 /ug=Rn.5890 /len=8193
U89529	9057	P97849	9058	BC828409	9059	XP_026 964	9060	88.68	Rattus norvegicus fatty acid transport protein mRNA, complete cds	U89529 Rattus norvegicus fatty acid transport protein mRNA, complete cds /cds=(74,2014) /gb=U89529 /gi=1881712 /ug=Rn.1047 /len=3080
U89745	9061	AAB498 95	9062	No human homolog found.		No Human Protein Found.			Rattus norvegicus unknown protein mRNA, partial cds	U89745 Rattus norvegicus unknown protein mRNA, partial cds /cds=(0,293) /gb=U89745 /gi=1895082 /ug=Rn.10720 /len=1114

Plasma  
membrane.  
  
Long-chain fatty  
acid transport  
protein  
precursor  
(FATP).

Table 2.

U89905	9063	P70473	9064	BC009471	9065	Q8UHK6	9066	85.79	Methylacyl-CoA racemase alpha	U89905 Rattus norvegicus alpha-methylacyl-CoA racemase mRNA, complete cds /cds=(58,1143) /gb=U89905 /gi=2145183 /lug=Rn.2590 /len=1504	Peroxisomal and mitochondrial	Alpha-methylacyl-CoA racemase (EC 5.1.99.4) (2-methylacyl-CoA racemase) (2-arypropionyl-CoA epimerase).
U89905	9067	P70473	9068	BC009471	9069	Q8UHK6	9070	85.79	Methylacyl-CoA racemase alpha	U89905 Rattus norvegicus alpha-methylacyl-CoA racemase mRNA, complete cds /cds=(58,1143) /gb=U89905 /gi=2145183 /lug=Rn.2590 /len=1504	Peroxisomal and mitochondrial	Alpha-methylacyl-CoA racemase (EC 5.1.99.4) (2-methylacyl-CoA racemase) (2-arypropionyl-CoA epimerase).
U90312	9071	Q55207	9072	AL157424	9073	O15056	9074	94.07	Synaptotagmin II	U90312 Rattus norvegicus synaptotagmin II mRNA, complete cds /cds=(55,3801) /gb=U90312 /gi=2708482 /lug=Rn.10868 /len=5033	CYTOPLASMIC. INTERACTION OF ISOFORM 2A WITH OMP25 RESULTS IN LOCALIZATION TO THE MITOCHONDRIA.	"Synaptotagmin 2" (EC 3.1.3.56) (Synaptic Inositol-1,4,5-trisphosphate 5-phosphatase 2)."



Table 2.

U90610	9075	O08565	9076	L06797	9077	P30991	9078	86.57	CXC chemokine receptor (CXCR4) mRNA	U90610 Rattus norvegicus CXC chemokine receptor (CXCR4) mRNA, complete cds /cds=(0,1049) /gb=U90610 /gi=1906612 /ug=Rn.5289 /len=1050	Integral membrane protein.	C-X-C chemokine receptor type 4 (CXCR-4) (CXCR-4) (Stromal cell-derived factor 1 receptor) (SDF-1 receptor) (Fusin) (Leukocyte-derived seven transmembrane domain receptor) (LESTR).
U90610	9079	O08565	9080	L06797	9081	P30991	9082	86.57	CXC chemokine receptor (CXCR4) mRNA	U90610 Rattus norvegicus CXC chemokine receptor (CXCR4) mRNA, complete cds /cds=(0,1049) /gb=U90610 /gi=1906612 /ug=Rn.5289 /len=1050	Integral membrane protein.	C-X-C chemokine receptor type 4 (CXCR-4) (CXCR-4) (Stromal cell-derived factor 1 receptor) (SDF-1 receptor) (Fusin) (Leukocyte-derived seven transmembrane domain receptor) (LESTR).
U90725	9083	AAD09 246	9084	M64098	9085	Q00341	9086	97	Lipoprotein-binding protein	U90725 RNU90725 Rattus norvegicus caveolae-associated protein mRNA, complete cds		
U90725	9087	AAD09 246	9088	M64098	9089	Q00341	9090	97	Lipoprotein-binding protein	U90725 RNU90725 Rattus norvegicus caveolae-associated protein mRNA, complete cds		

Table 2.

U90829	9091	AAD09 247	9092	U50939	9093	NP_003 896	9094	92.7	APP-binding protein 1	U90829 RNU90829 Rattus norvegicus APP- binding protein 1 mRNA, complete cds
U90829	9095	AAD09 247	9096	U50939	9097	NP_003 896	9098	92.7	APP-binding protein 1	U90829 RNU90829 Rattus norvegicus APP- binding protein 1 mRNA, complete cds
U90829	9099	AAD09 247	9100	U50939	9101	NP_003 896	9102	92.7	APP-binding protein 1	U90829 RNU90829 Rattus norvegicus APP- binding protein 1 mRNA, complete cds
U90829	9103	AAD09 247	9104	U50939	9105	NP_003 896	9106	92.7	APP-binding protein 1	U90829 RNU90829 Rattus norvegicus APP- binding protein 1 mRNA, complete cds
U91561	9107	AAC23 707	9108	NM_0181 29	9109	NP_060 599	9110	89	pyridoxine 5'- phosphate oxidase	U91561 RNU91561 Rattus norvegicus pyridoxine 5'-phosphate oxidase mRNA, complete cds
U91561	9111	AAC23 707	9112	NM_0181 29	9113	NP_060 599	9114	89	pyridoxine 5'- phosphate oxidase	U91561 RNU91561 Rattus norvegicus pyridoxine 5'-phosphate oxidase mRNA, complete cds
U91561	9115	AAC23 707	9116	NM_0181 29	9117	NP_060 599	9118	89	pyridoxine 5'- phosphate oxidase	U91561 RNU91561 Rattus norvegicus pyridoxine 5'-phosphate oxidase mRNA, complete cds
U91561	9119	AAC23 707	9120	NM_0181 29	9121	NP_060 599	9122	89	pyridoxine 5'- phosphate oxidase	U91561 RNU91561 Rattus norvegicus pyridoxine 5'-phosphate oxidase mRNA, complete cds
U92072	9123	AAD04 756	9124	AI025874	9125	XP_045 911	9126	95.05	Tomosyn	U92072 RRU92072 Rattus norvegicus m- tomosyn mRNA, complete cds
U92279	9127	O08773	9128	AF037184	9129	O43566	9130	86.25	Rattus norvegicus regulator of G- protein signalling 14 (RGS14) mRNA, complete cds	U92279 Rattus norvegicus regulator of G- protein signalling 14 (RGS14) mRNA, complete cds /cds=(264,1898) /gb=U92279 /gi=2086555 /ug=Rn.9795 /len=2854
										Regulator of G- protein signalling 14 (RGS14).

Table 2.

U92564	9131	AAB586 46	9132	AB018303	9133	BAA344 80	9134	98.21	Rattus norvegicus Olf- 1/EBF associated Zn finger protein Roaz mRNA, alternatively spliced form, complete cds	U92564 Rattus norvegicus Olf-1/EBF associated Zn finger protein Roaz mRNA, alternatively spliced form, complete cds /cds=(411,3971) /gb=U92564 /gi=2149791 /ug=Rn.9981 /len=4636
U92564	9135	AAB586 46	9136	AB018303	9137	BAA344 80	9138	98.21	Rattus norvegicus Olf- 1/EBF associated Zn finger protein Roaz mRNA, alternatively spliced form, complete cds	U92564 Rattus norvegicus Olf-1/EBF associated Zn finger protein Roaz mRNA, alternatively spliced form, complete cds /cds=(411,3971) /gb=U92564 /gi=2149791 /ug=Rn.9981 /len=4636
U92564	9139	AAB586 46	9140	AB018303	9141	BAA344 80	9142	98.21	Rattus norvegicus Olf- 1/EBF associated Zn finger protein Roaz mRNA, alternatively spliced form, complete cds	U92564 Rattus norvegicus Olf-1/EBF associated Zn finger protein Roaz mRNA, alternatively spliced form, complete cds /cds=(411,3971) /gb=U92564 /gi=2149791 /ug=Rn.9981 /len=4636

Table 2.

U92564	9143	AAB586 46	9144	AB018303	9145	BAA344 80	9146	98.21	Rattus norvegicus Olf- 1/EBF associated Zn finger protein Roaz mRNA, alternatively spliced form, complete cds	U92564 Rattus norvegicus Olf-1/EBF associated Zn finger protein Roaz mRNA, alternatively spliced form, complete cds /cds=(411,3971) /gb=U92564 /gi=2149791 /ug=Rn.9981 /len=4836
U93197	9147	AAB517 24	9148	AK022522	9149	O60313	9150	93.21	RN protein	U93197 Rattus norvegicus RN protein mRNA, complete cds /cds=(265,1218) /gb=U93197 /gi=1934602 /ug=Rn.9783 /len=1601
U94340	9151	P27008	9152	M18112	9153	P08874	9154	82	poly(ADP- ribose) polymerase	U94340 RNU94340 Rattus norvegicus poly(ADP-ribose) polymerase mRNA, complete cds
U94904	9155	AAC53 493	9156	AF260261	9157	NP_005 750	9158	95.17	Thyroid hormone responsive protein	U94904 Rattus norvegicus thyroid hormone responsive protein mRNA, complete cds /cds=(63,1694) /gb=U94904 /gi=2232008 /ug=Rn.11316 /len=3628
U95178	9159	O88797	9160	AK024965	9161	NP_001 334	9162	92.58	DOC-2 p82 isoform	U95178 Rattus norvegicus DOC-2 p59 isoform mRNA, complete cds /cds=(6,1656) /gb=U95178 /gi=3157994 /ug=Rn.14763 /len=2504

Nuclear.

Poly [ADP-  
ribose]  
polymerase-1  
(EC 2.4.2.30)  
(PARP-1)  
(ADPRT)  
(NAD(+)-ADP-  
ribosyltransferase-1) (Poly[ADP-  
ribose]  
synthetase-1).Disabled  
homolog 2  
(DOC-2)  
(Mitogen-  
responsive  
phosphoprotein)  
(C9).

Table 2.

U95727	9163	O35824	9164	NIM_0058 80	9165	O60884	9166	86	DnaJ (Hsp40) homolog, subfamily A, member 2	U95727 RNU95727 Rattus norvegicus DnaJ homolog 2 mRNA, complete cds	Membrane- bound .	DnaJ homolog subfamily A member 2 (RDJ2).
U95727	9167	O35824	9168	NIM_0058 80	9169	O60884	9170	88	DnaJ (Hsp40) homolog, subfamily A, member 2	U95727 RNU95727 Rattus norvegicus DnaJ homolog 2 mRNA, complete cds	Membrane- bound .	DnaJ homolog subfamily A member 2 (RDJ2).
U96130	9171	O08730	9172	X79537	9173	P46976	9174	91.24	Glycogenin	U96130 Rattus norvegicus glycogenin mRNA, partial cds /cds=(0,742) /gb=U96130 /gi=2058738 /ug=Rn.3661 /len=1348		Glycogenin-1 (EC 2.4.1.186).
U96130	9175	O08730	9176	X79537	9177	P46976	9178	91.24	Glycogenin	U96130 Rattus norvegicus glycogenin mRNA, partial cds /cds=(0,742) /gb=U96130 /gi=2058738 /ug=Rn.3661 /len=1348		Glycogenin-1 (EC 2.4.1.186).
U96490	9179	AAB687 77	9180	BC001299	9181	NP_065 203	9182	86.27	liver mRNA,	U96490 Rattus norvegicus liver mRNA, complete cds /cds=(95,508) /gb=U96490 /gi=2352085 /ug=Rn.11174 /len=1030		
U96490	9183	AAB687 77	9184	BC001299	9185	NP_065 203	9186	86.27	liver mRNA,	U96490 Rattus norvegicus liver mRNA, complete cds /cds=(95,508) /gb=U96490 /gi=2352085 /ug=Rn.11174 /len=1030		
U97143	9187	AAC53 301	9188	U97145	9189	O00451	9190	92.86	RET ligand 2	U97143 Rattus norvegicus RET ligand 2 (RET12) mRNA, complete cds /cds=(120,1514) /gb=U97143 /gi=2282023 /ug=Rn.10775 /len=2787		
V01227	9191	P02551	9192	AF141347	9193	P05209	9194	97	alpha-tubulin	V01227 Rat mRNA encoding alpha-tubulin /cds=(66,1421) /gb=V01227 /gi=55776 /ug=Rn.3389 /len=1617		Tubulin alpha-1 chain.

Table 2.

V01543	9185	CAA24 785	9186	No human homolog found.	No Human Protein Found.	Rat mRNA fragment isolated from the brain and coding for brain specific peptide.	V01543mRNA Rat mRNA fragment isolated from the brain and coding for brain specific peptide /cds=(547,906) /gb=V01543 /gl=56876 /ug=Rn.2885 /len=1136			
V01543	9197	NP_077 042	9188	No human homolog found.	No Human Protein Found.	Brain specific mRNA B (clone p1a75)	V01543mRNA Rat mRNA fragment isolated from the brain and coding for brain specific peptide /cds=(547,906) /gb=V01543 /gl=56876 /ug=Rn.2885 /len=1136	NM_02412 8		
X01785	9199	P04218	9200	X05323	9201 43	Cell surface protein (thymocyte, antigen identified by monoclonal antibody MRC- OX2	X01785 Rat thymocyte mRNA for cell surface protein (MRC OX-2) /cds=(24,860) /gb=X01785 /gl=56700 /ug=Rn.7085 /len=2216	NM_03151 8	Type I membrane protein.	OX-2 membrane glycoprotein precursor (MRC OX-2 antigen).
X02412	9203	Q63582	9204	X03541	P04629	striated muscle alpha- tropomyosin	X02412 Rat mRNA fragment for striated muscle alpha-tropomyosin /cds=(0,614) /gb=X02412 /gl=57405 /ug=Rn.1033 /len=880			Tropomyosin 1 alpha chain (Alpha- tropomyosin).
X02601	9207	P03957	9208	J03209	P08254	53 kD polypeptide induced by growth factors (EGF) and oncogenes (H- ras; src; polyoma middle T)	X02601 Rat mRNA for 53 kD polypeptide induced by growth factors (EGF) and oncogenes (H-ras; src; polyoma middle T) /cds=(57,1484) /gb=X02601 /gl=57460 /ug=Rn.10435 /len=1771			Stromelysin-1 precursor (EC 3.4.24.17) (Matrix metalloproteinase- 3)(MMP-3) (Transin-1) (SL- 1) (PTR1 protein).

Table 2.

X02804	9211	P04906	9212	U30897	9213	P08211	9214	85	Glutathione S-transferase, p185	X02804cds RINGSTP Rat mRNA for glutathione S-transferase P subunit	X03362 Rat mRNA for neu oncogene (p185) encoding an epidermal growth factor receptor-related protein /cds=(16,3788) /gb=X03362 /gi=56745 /ug=Rn.10380 /len=3955	Type I membrane protein.	Receptor protein-tyrosine kinase erbB-2 precursor (EC 2.7.1.112)(p185 erbB2) (NEU proto-oncogene) (C-erbB-2) (Epidermal growth factor receptor-related protein).	Glutathione S-transferase P (EC 2.5.1.18) (GST 7-7) (Chain 7)(GST class-pl).
X03362	9215	P06494	9216	M11730	9217	P04626	9218	89.47	put. p185 precursor					
X03369	9219	P04691	9220	R28239	9221	XP_004389		97.2	beta-tubulin T beta15	X03369 Rat mRNA for beta-tubulin T beta15 /cds=(8,1345) /gb=X03369 /gi=57428 /ug=Rn.11235 /len=1592			Tubulin beta chain (T beta-15).	
X04070	9222	P08033	9223	BC002805	9224	P08034	9225	91.25	Gap junction protein (Connexin 32 - Charcot-Marie-Tooth neuropathy, X-linked)	X04070 Rat liver mRNA for gap junction protein /cds=(31,882) /gb=X04070 /gi=56205 /ug=Rn.10444 /len=1485	Integral membrane protein.		Gap junction beta-1 protein (Connexin 32) (Cx32) (GAP junction 28 kDa liver protein).	
X04979	9226	CAA28650	9227	NM_000041	9228	P02649	9229	72	Apolipoprotein E	X04979 Rat gene for apolipoprotein E /cds=(23,958) /gb=X04979 /gi=55755 /ug=Rn.7082 /len=1089				

Table 2.

X05137	9230	P07174	9231	M14784	9232	P08138	9233	86.75	Fast nerve growth factor receptor (NGFR)	X05137 Rat mRNA for fast nerve growth factor receptor (NGFR) /cds=(113,1390) /gb=X05137 /gi=56755 /ug=Rn.10980 /len=3259	Type I membrane protein.	Tumor necrosis factor receptor superfamily member 16 precursor (Low-affinity nerve growth factor receptor) (Gp80-LNGFR)(p75 ICD) (Low affinity neurotrophin receptor p75NTR).
X05300	9234	P07153	9235	Y00281	9236	P04843	9237	94	Ribophorin I	X05300 Rat mRNA for ribophorin I /cds=(8,1826) /gb=X05300 /gi=57070 /ug=Rn.4224 /len=2214	Type I membrane protein. Endoplasmic reticulum.	Dolichyl-diphosphooligosaccharide-protein glycosyltransferase87 kDa subunit precursor (EC 2.4.1.119) (Ribophorin I) (RPN-I).
X05472	9238	CAA29032	9239	No human homolog found.	No Human Protein Found.	Rat 2.4 kb repeat DNA right terminal region (genomic clone with 3 reading frames)				X05472cds#1 RNREP24R Rat 2.4 kb repeat DNA right terminal region		



Table 2.

X05472	9240	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Genomic 2.4 kb repeat DNA right terminal containing two ORFs	X05472cds#1 RNREP24R Rat 2.4 kb repeat DNA right terminal region
X05472	9241	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Genomic 2.4 kb repeat DNA right terminal containing two ORFs	X05472cds#1 RNREP24R Rat 2.4 kb repeat DNA right terminal region
X05472	9242	CAA29 032	No human homolog found.	No Human Protein Found.	Rat 2.4 kb repeat DNA right terminal region (genomic clone with 3 reading frames)	X05472cds#1 RNREP24R Rat 2.4 kb repeat DNA right terminal region
X05472	9244	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Genomic 2.4 kb repeat DNA right terminal containing two ORFs	X05472cds#1 RNREP24R Rat 2.4 kb repeat DNA right terminal region
X05472	9245	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Genomic 2.4 kb repeat DNA right terminal containing two ORFs	X05472cds#2 RNREP24R Rat 2.4 kb repeat DNA right terminal region
X05472	9246	CAA29 032	No human homolog found.	No Human Protein Found.	Rat 2.4 kb repeat DNA right terminal region (genomic clone with 3 reading frames)	X05472cds#2 RNREP24R Rat 2.4 kb repeat DNA right terminal region

Table 2.

X05472	9248	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Genomic 2.4 kb repeat DNA right terminal containing two ORFs	X05472cds#2 RNREP24R Rat 2.4 kb repeat DNA right terminal region
X05472	9249	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Genomic 2.4 kb repeat DNA right terminal containing two ORFs	X05472cds#2 RNREP24R Rat 2.4 kb repeat DNA right terminal region
X05472	9250	CAA29 032	No human homolog found.	No Human Protein Found.	Rat 2.4 kb repeat DNA right terminal region (genomic clone with 3 reading frames)	X05472cds#2 RNREP24R Rat 2.4 kb repeat DNA right terminal region
X05472	9252	CAA29 032	No human homolog found.	No Human Protein Found.	Rat 2.4 kb repeat DNA right terminal region (genomic clone with 3 reading frames)	X05472cds#3 RNREP24R Rat 2.4 kb repeat DNA right terminal region
X05472	9254	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	Genomic 2.4 kb repeat DNA right terminal containing two ORFs	X05472cds#3 RNREP24R Rat 2.4 kb repeat DNA right terminal region

Table 2.

Accession	Gene	Protein	Human Protein Found	No human homolog found.	CAA29032	9256	Rat 2.4 kb repeat DNA right terminal region (genomic clone with 3 reading frames)	Rat 2.4 kb repeat DNA right terminal region (genomic clone with 3 reading frames)	Accession	Gene	Protein	Human Protein Found	No human homolog found.	CAA29032	9256	Rat 2.4 kb repeat DNA right terminal region (genomic clone with 3 reading frames)
X05472	NCAM	NCAM	Found.	No human homolog found.	No Rat Protein Found.	9257	Genomic 2.4 kb repeat DNA right terminal containing two ORFs	Genomic 2.4 kb repeat DNA right terminal containing two ORFs	X05472cds#3	RNREP24R	Rat 2.4 kb repeat DNA right terminal region	Found.	No human homolog found.	No Rat Protein Found.	9257	Genomic 2.4 kb repeat DNA right terminal containing two ORFs
X05472	NCAM	NCAM	Found.	No human homolog found.	No Rat Protein Found.	9258	Genomic 2.4 kb repeat DNA right terminal containing two ORFs	Genomic 2.4 kb repeat DNA right terminal containing two ORFs	X05472cds#3	RNREP24R	Rat 2.4 kb repeat DNA right terminal region	Found.	No human homolog found.	No Rat Protein Found.	9258	Genomic 2.4 kb repeat DNA right terminal containing two ORFs
X05834	Fibronectin	Fibronectin	Found.	No human homolog found.	No Rat Protein Found.	9259	Fibronectin gene 3'end	Fibronectin gene 3'end	X05834	Rat fibronectin gene 3 end	Rat 2.4 kb repeat DNA right terminal region	Found.	No human homolog found.	No Rat Protein Found.	9259	Fibronectin gene 3'end
X06150	Glycine methyltransferase	Glycine methyltransferase	Found.	No human homolog found.	No Rat Protein Found.	9263	Glycine methyltransferase	Glycine methyltransferase	X06150cds	RNGMTR	Rat mRNA for glycine methyltransferase (EC 2.1.1.20)	Found.	No human homolog found.	No Rat Protein Found.	9263	Glycine methyltransferase
X06564	NCAM	NCAM	Found.	No human homolog found.	No Rat Protein Found.	9267	NCAM polypeptide	NCAM polypeptide	X06564	Rat mRNA for 140-kD NCAM polypeptide	Rat 2.4 kb repeat DNA right terminal region	Found.	No human homolog found.	No Rat Protein Found.	9267	NCAM polypeptide

Table 2.

X06655	9271	P07825	9272	AF196779	9273	AAF05829	87	major synaptic vesicle protein p38	X06655 Rat mRNA for major synaptic vesicle protein p38 /cds=(0,896) /gb=X06655 /gl=56822 /ug=Rn.11087 /len=2310	Integral membrane protein. Synaptic vesicles.	Synaptophysin (Major synaptic vesicle protein p38).
X06832	9274	CAA29988	9275	NM_001275	9276	P10645	53	Prechromogranin A	X06832cds#2 RNCHROMA Rat mRNA for prechromogranin A		
X06889	9278	P05713	9279	M28210	9280	P20336	88.69	Ras-related small GTP binding protein 3A	X06889cds RNRAB3 Rat ras-related mRNA rab3		Ras-related protein Rab-3A.
X06942	9282	P14056	9283	X04790	9284	P10398	91	A-raf	X06942 Rat A-raf mRNA /cds=(77,1891) /gb=X06942 /gl=55756 /ug=Rn.1714 /len=2288		A-Raf proto-oncogene serine/threonine-protein kinase (EC 2.7.1.-).
X07266	9286	CAA30252	9287	NM_018948	9288	NP_061821	74	Gene 33/Mig-6	X07266cds RRG33A Rat mRNA for gene 33 polypeptide		
X07320	9290	P13286	9291	NM_006213	9292	Q16816	91	Phosphorylase kinase gamma	X07320 Rat mRNA for phosphorylase kinase gamma-subunit /cds=(76,1242) /gb=X07320 /gl=56926 /ug=Rn.10399 /len=1388		"Phosphorylase B kinase gamma catalytic chain, skeletal muscle isoform (EC 2.7.1.38) (Phosphorylase kinase gamma subunit 1)."
X07636	9294	P08290	9295	M11025	9296	P07307	67	Asialoglycoprotein receptor 2	X07636 Rat mRNA for hepatic lectin /cds=(77,982) /gb=X07636 /gl=57066 /ug=Rn.9834 /len=1280	Type II membrane protein.	Asialoglycoprotein receptor R2/3 (Hepatic lectin 2/3) (RHL-2) (ASGP-R) (ASGPR).

Table 2.

X07944	9298	CAA30 765	9299	NM_0025 39	9300	P11926	9301	91	ornithine decarboxylase	X07944 exon#1-12 RNODC Rat ornithine decarboxylase gene (EC 4.1.1.17)
X08056	9302	CAA30 845	9303	NM_0001 56	9304	Q14353	9305	85	Guanidinoacetate methyltransferase	X08056cds RINGMT Rat gene for guanidinoacetate methyltransferase (EC 2.1.1.2)
X08056	9306	CAA30 845	9307	NM_0001 56	9308	Q14353	9309	85	Guanidinoacetate methyltransferase	X08056cds RINGMT Rat gene for guanidinoacetate methyltransferase (EC 2.1.1.2)
X12459	9310	P09034	9311	X01630	9312	P00966	9313	96	Argininosuccinate synthetase 1	X12459 Rat mRNA for argininosuccinate synthetase (EC 6.3.4.5) /cds=(14,1252) /gb=X12459 /gi=55766 /ug=Rn.5078 /len=1495
X12535	9314	CAA31 053	9315	XM_03158 8		XP_031 586		99	Ras-related protein p23	X12535cds RNRASP23 Rat mRNA for ras- related protein p23
X12535	9316	CAA31 053	9317	XM_03158 8		XP_031 586		99	Ras-related protein p23	X12535cds RNRASP23 Rat mRNA for ras- related protein p23
X13016	9318	P10252	9319	M37766	9320	P09326	9321	80.34	MRC OX-45 surface antigen	X13016 Rat mRNA for MRC OX-45 surface antigen /cds=(34,756) /gb=X13016 /gi=56804 /ug=Rn.3705 /len=1422
										Attached to the membrane by a GPI- anchor.
										MRC OX-45 surface antigen precursor (BCM1 surface antigen) (BLAST- 1)(CD48).

Table 2.

X13044	9322	P10247	9323	NM_004355	9324	P04233	9325	67	CD74 antigen (invariant polypeptide of major histocompatibility class II antigen-associated)	NM_013069	X13044 Rat mRNA for MHC-associated invariant chain gamma /cds=(52,702) /gb=X13044 /gi=56497 /ug=Rn.10475 /len=1150	Type II membrane protein .	"H-2 class II histocompatibility antigen, gamma chain (MHC class II associated invariant chain) (Ia antigen-associated invariant chain)(II) (CD74 antigen)."
X13044	9326	P10247	9327	NM_004355	9328	P04233	9329	67	CD74 antigen (invariant polypeptide of major histocompatibility class II antigen-associated)	NM_013069	X13044 Rat mRNA for MHC-associated invariant chain gamma /cds=(52,702) /gb=X13044 /gi=56497 /ug=Rn.10475 /len=1150	Type II membrane protein .	"H-2 class II histocompatibility antigen, gamma chain (MHC class II associated invariant chain) (Ia antigen-associated invariant chain)(II) (CD74 antigen)."

Table 2.

X13044	9330	P10247	9331	NM_004355	9332	P04233	9333	67	CD74 antigen (invariant polypeptide of major histocompatibility class II antigen-associated)	NM_013069	X13044 Rat mRNA for MHC-associated invariant chain gamma /cds=(52,702) /gb=X13044 /gi=56497 /ug=Rn.10475 /len=1150	Type II membrane protein.	"H-2 class II histocompatibility antigen, gamma chain (MHC class II associated invariant chain) (CD74 antigen)."
X13044	9334	P10247	9335	NM_004355	9336	P04233	9337	67	CD74 antigen (invariant polypeptide of major histocompatibility class II antigen-associated)	NM_013069	X13044 Rat mRNA for MHC-associated invariant chain gamma /cds=(52,702) /gb=X13044 /gi=56497 /ug=Rn.10475 /len=1150	Type II membrane protein.	"H-2 class II histocompatibility antigen, gamma chain (MHC class II associated invariant chain) (CD74 antigen)."
X13411	9338	CAA31777	9339	XM_045572		XP_045572		98	Elk protein		X13411cds RNELK Rat mRNA for elk protein		
X13722	9340	P35952	9341	S70123	9342	AAF24515	9343	88,68	Rat mRNA for LDL-receptor		X13722 Rat mRNA for LDL-receptor /cds=(153,2792) /gb=X13722 /gi=56569 /ug=Rn.10483 /len=3037	Type I membrane protein.	Low-density lipoprotein receptor precursor (LDL receptor).
X13804	9344	CAA32038	9345	XM_037942	9346	XP_037942	9347	87	Heavy neurofilament polypeptide (854 AA)		X13804cds RSNFH Rat mRNA for heavy neurofilament polypeptide NF-H C-terminus		

X13905	9348	CAA32 105	9348	NM_0041 61	9350	P11476	9351	91	rab1B protein	rab1B protein	X13905cds RNAB1B Rat cDNA for ras-related rab1B protein	Calmodulin.
X13905	9352	CAA32 105	9353	NM_0041 61	9354	P11476	9355	91	rab1B protein	rab1B protein	X13905cds RNAB1B Rat cDNA for ras-related rab1B protein	
X13933	9356	P02593	9357	A1802286	9358	AAH084 37	9359	97	Calmodulin	Calmodulin	X13933 RNRCM1 R.norvegicus mRNA for calmodulin (pRCM1)	
X13983	9360	NP_036 620	9361	XM_00692 5	9362	XP_005 925	9363	67	Rat alpha-2-macroglobulin gene exon 1 (and joined CDS)	Rat alpha-2-macroglobulin gene exon 1 (and joined CDS)	X13983mRNA RNA2MG1 Rat alpha-2-macroglobulin gene exon 1 (and joined CDS)	



Table 2.

X14181	9364	CAA32 385	9365	NM_0009 80	9366	Q02543	9367	Rat mRNA for ribosomal protein L18a	AA799899	X14181cds RRRPL18A Rat mRNA for ribosomal protein L18a
X14181	9368	CAA32 385	9369	NM_0009 80	9370	Q02543	9371	ribosomal protein L18a		X14181cds RRRPL18A Rat mRNA for ribosomal protein L18a
X14181	9372	CAA32 385	9373	NM_0009 80	9374	Q02543	9375	Rat mRNA for ribosomal protein L18a	AA799899	X14181cds RRRPL18A Rat mRNA for ribosomal protein L18a
X14181	9376	CAA32 385	9377	NM_0009 80	9378	Q02543	9379	ribosomal protein L18a		X14181cds RRRPL18A Rat mRNA for ribosomal protein L18a
X14210	9380	CAA32 427	9381	NM_0010 07	9382	P12750	9383	ribosomal protein S4, x- linked		X14210cds RNRPS4 Rat mRNA for ribosomal protein S4
X14210	9384	CAA32 427	9385	NM_0010 07	9386	P12750	9387	ribosomal protein S4		X14210cds RNRPS4 Rat mRNA for ribosomal protein S4
X14210	9388	CAA32 427	9389	NM_0010 07	9390	P12750	9391	ribosomal protein S4, x- linked		X14210cds RNRPS4 Rat mRNA for ribosomal protein S4
X14210	9392	CAA32 427	9393	NM_0010 07	9394	P12750	9395	ribosomal protein S4		X14210cds RNRPS4 Rat mRNA for ribosomal protein S4
X14254	9396	CAA32 468	9397	K01144	9398	P04233	9399	MHC class II- associated invariant chain		X14254cds RNIMHC2I Rat mRNA for MHC class II-associated invariant chain
X14254	9400	CAA32 468	9401	K01144	9402	P04233	9403	MHC class II- associated invariant chain		X14254cds RNIMHC2I Rat mRNA for MHC class II-associated invariant chain
X14323	9404	CAA32 503	9405	NM_0041 07	9406	P55899	9407	IgG receptor FcRn large subunit p51		X14323cds RNIGGR51 Rat mRNA for IgG receptor FcRn large subunit p51
X14323	9408	CAA32 503	9409	NM_0041 07	9410	P55899	9411	IgG receptor FcRn large subunit p51		X14323cds RNIGGR51 Rat mRNA for IgG receptor FcRn large subunit p51
X14323	9412	CAA32 503	9413	NM_0041 07	9414	P55899	9415	IgG receptor FcRn large subunit p51		X14323cds RNIGGR51 Rat mRNA for IgG receptor FcRn large subunit p51

Table 2.

X14323	9416	CAA32 503	9417	NM_0041 07	9418	P55899	9419	59	IgG receptor FcRn large subunit p51	AA883493	X14323cds RNIGGR51 Rat mRNA for IgG receptor FcRn large subunit p51
X14671	9420	CAA32 801	9421	XM_03045 6		XP_030 456		87	liver mRNA for ribosomal protein L26		X14671cds RRRPL26 Rat liver mRNA for ribosomal protein L26
X14848	9422	No human homolo g found.		No Human Protein Found.					Rattus norvegicus mitochondrial genome		X14848cds#12 MIRNXX Rattus norvegicus mitochondrial genome
X14848	9423	No human homolo g found.		No Human Protein Found.					Rattus norvegicus mitochondrial genome	AA945152	X14848cds#12 MIRNXX Rattus norvegicus mitochondrial genome
X14848	9424	No human homolo g found.		No Human Protein Found.					Rattus norvegicus mitochondrial genome		X14848cds#2 MIRNXX Rattus norvegicus mitochondrial genome
X14848	9425	No human homolo g found.		No Human Protein Found.					Rattus norvegicus mitochondrial genome	AA945152	X14848cds#2 MIRNXX Rattus norvegicus mitochondrial genome
X15468	9426	CAA33 495	9427	NM_0008 14	9428	P28472	9429	94	GABA(A) receptor beta- 3 preprotein		X15468cds RSGARB3 Rat mRNA for GABA(A) receptor beta-3 subunit
X15512	9430	P19939	9431	NM_0016 45	9432	P02654	9433	68	Apolipoprotein CI		X15512 Rat mRNA for apolipoprotein CI /cds=(83,349) /gb=X15512 /gi=55676 /lug=Rn.8887 /len=435
X15705	9434	CAA33 735	9435	U58725	9436	P54652	9437	80	HST protein (AA 1-633)		X15705cds RNHST70A Rat testis-specific heat shock protein-related gene hst70
X16002	9438	CAA34 133	9439	M55514	9440	P22459	9441	73	Putative potassium channel subunit protein (RCK4)		X16002cds RNRCK4 Rat mRNA for putative potassium channel subunit protein (RCK4)
									Extracellular.		Apolipoprotein C-I precursor (Apo-CI).



Table 2.

X16262	9461	Q8JLT0	9462	BC000280	9463	NP_002465	9464	93.85	Myosin heavy chain 21	X16262 Rat mRNA for alternatively spliced smooth muscle myosin heavy chain (clone RAMHC21) /cds=(0,1865) /gb=X16262 /gl=58650 /ug=Rn.10487 /len=2348	"Myosin heavy chain, nonmuscle type B (Cellular myosin heavy chain, type B) (Nonmuscle myosin heavy chain-B) (NIMHC-B)."
X16273	9465	CAA34349	9466	NM_000295	9467	P01009	9468	66	serine proteinase inhibitor-like protein	X16273cds RNSPILP Rat mRNA for serine proteinase inhibitor-like protein, partial	
X16273	9469	CAA34349	9470	NM_000295	9471	P01009	9472	66	serine proteinase inhibitor-like protein	X16273cds RNSPILP Rat mRNA for serine proteinase inhibitor-like protein, partial	
X16273	9473	CAA34349	9474	NM_000295	9475	P01009	9476	66	serine proteinase inhibitor-like protein	X16273cds RNSPILP Rat mRNA for serine proteinase inhibitor-like protein, partial	
X16273	9477	CAA34349	9478	NM_000295	9479	P01009	9480	66	serine proteinase inhibitor-like protein	X16273cds RNSPILP Rat mRNA for serine proteinase inhibitor-like protein, partial	
X16476	9481	CAA34497	9482	XM_030504		XP_030504		88	Potassium channel protein	X16476cds RSDRK1PC Rat dirk1 gene mRNA for potassium channel protein	
X16481	9483	P04550	9484	No human homolog found.		No Human Protein Found.			Zinc(2+) binding protein	X16481 Rat mRNA for zinc(2+) binding protein /cds=(115,423) /gb=X16481 /gl=55538 /ug=Rn.3609 /len=812	Parathymosin (Zinc-binding 11.6 kDa protein).
X16933	9485	CAA34808	9486	M94630	9487	Q14103	9488	81	Rat mRNA for hnRNP C protein, partial	X16933cds RSHNRNPC Rat mRNA for hnRNP C protein, partial	

Table 2.

X16933	9489	CAA34 808	9490	M94630	9491	Q14103	9492	81	Rat mRNA for hnRNP C protein, partial		X16933cds RSHNRP C protein, partial
X17163	9493	CAA35 084	9494	J04111	9495	AA591 97	9496	78	c-jun proto oncogene (JUN)	A1176959	X17163cds RSJUNAP1 Rat c-jun oncogene mRNA for transcription factor AP-1
X17163	9497	CAA35 041	9498	XM_001472	9499	XP_001472	9500	78	c-jun oncogene mRNA for transcription factor AP-1	AA945667	X17163cds RSJUNAP1 Rat c-jun oncogene mRNA for transcription factor AP-1
X51529	9501	CAA35 909	9502	NM_000300	9503	P14555	9504	71	platelet phospholipase A2		X51529 Rat gene for platelet phospholipase A2 /cds=(549,989) /gb=X51529 /gi=56930 /lug=Rn.11346 /len=1262
X51615	9505	AAD50 911	9506	XM_007169		XP_007169			connexin protein Cx26	AF170284	X51615 RRCX26 R. rattus RNA for connexin protein Cx26
X51708	9507	CAA36 002	9508	XM_012407		XP_012407		92	Ribosomal protein L9		X51708cds RRRPL9 Rat mRNA for ribosomal protein L9
X51708	9509	CAA36 002	9510	XM_012407		XP_012407		92	Ribosomal protein L9		X51708cds RRRPL9 Rat mRNA for ribosomal protein L9
X52140	9511	P18614	9512	NM_012211	9513	Q8U0X5	9514	37	Integrin alpha-1.		X52140 Rat mRNA for Integrin alpha-1 /cds=(419,3981) /gb=X52140 /gi=56493 /lug=Rn.11491 /len=3974
X52711	9515	P18588	9516	NM_002462	9517	P20591	9518	67	Mx1		X52711 Rat mRNA for Mx1 protein /cds=(114,2072) /gb=X52711 /gi=56720 /lug=Rn.10373 /len=3114
X52733	9519	CAA36 947	9520	NM_000990	9521	P48776	9522	85	ribosomal protein L27a	A1177054	X52733cds RRRPL27A Rat mRNA for ribosomal protein L27a
X52817	9523	CAA37 001	9524	XM_050865		XP_050865		82	C1-13 gene product (AA 1-287)		X52817cds RSC113 Rat mRNA for C1-13 gene product

Type I  
membrane  
protein.  
  
Integrin alpha-1  
precursor  
(Laminin and  
collagen  
receptor) (VLA-  
1)(CD49a).

Interferon-  
induced GTP-  
binding protein  
Mx1.

Nuclear.

Table 2.

X52840	9525	P18666	9526	X54304	9527	P19105	9528	97	Myosin regulatory light chain	X52840 Rat mRNA for smooth muscle myosin RLC-B /cds=(17,535) /gb=X52840 /gi=56702 /ug=Rn.2887 /len=1113	"Myosin regulatory light chain 2-B, smooth muscle isoform (MyosinRLC- B)."
X53052	9528	CAA37 219	9530	NM_0120 64	9531	NP_036 186	9532	85	Rat mRNA for main intrinsic protein	X53052cda RRMIP Rat mRNA for main intrinsic protein	
X53054	9533	P18211	9534	XM_05342 1		XP_053 421		67	Rat mRNA for RT1.D beta chain	X53054 Rat mRNA for RT1.D beta chain /cds=(15,809) /gb=X53054 /gi=57169 /ug=Rn.11289 /len=1197	"RT1 class II histocompatibilit y antigen, D-1 beta chain precursor."
X53054	9535	P18211	9538	XM_05342 1		XP_053 421		67	Rat mRNA for RT1.D beta chain	X53054 Rat mRNA for RT1.D beta chain /cds=(15,809) /gb=X53054 /gi=57169 /ug=Rn.11289 /len=1197	"RT1 class II histocompatibilit y antigen, D-1 beta chain precursor."
X53054	9537	P18211	9538	XM_05342 1		XP_053 421		67	Rat mRNA for RT1.D beta chain	X53054 Rat mRNA for RT1.D beta chain /cds=(15,809) /gb=X53054 /gi=57169 /ug=Rn.11289 /len=1197	"RT1 class II histocompatibilit y antigen, D-1 beta chain precursor."
X53054	9539	P18211	9540	XM_05342 1		XP_053 421		67	Rat mRNA for RT1.D beta chain	X53054 Rat mRNA for RT1.D beta chain /cds=(15,809) /gb=X53054 /gi=57169 /ug=Rn.11289 /len=1197	"RT1 class II histocompatibilit y antigen, D-1 beta chain precursor."
X53231	9541	P18889	9542	No human homolog found.		No Human Protein Found.			Preoptic regulatory factor-1	X53231 Rat mRNA for preoptic regulatory factor-1 (PORF-1) /cds=(26,139) /gb=X53231 /gi=56949 /ug=Rn.19843 /len=689	Putative preoptic regulatory factor- 1 precursor (PORF-1).

Secreted .

NM\_02268  
8

Table 2.

X53585	9543	P19814	9544	BC008461	9545	O43493	9546	82.29	trans-Golgi network integral membrane protein TGN38	X53585 Rat mRNA for trans-Golgi network Integral membrane protein TGN38 /cds=(11,1084) /gb=X53585 /gi=57346 /lug=Rn.11349 /len=2750	TRANS- GOLGI NETWORK.	Trans-golgi network integral membrane protein TGN38 precursor.
X53581	9547	No human homolo g found.	No Human Protein Found.	No Human Protein Found.	No Human Protein Found.	No Human Protein Found.	No Human Protein Found.	R.norvegicus long Interspersed repetitive DNA containing 7 ORF's	R.norvegicus long Interspersed repetitive DNA containing 7 ORF's	X53581cds#3 RNLINED R.norvegicus long Interspersed repetitive DNA containing 7 ORF's	TRANS- GOLGI NETWORK.	Trans-golgi network integral membrane protein TGN38 precursor.
X53581	9548	No human homolo g found.	No Human Protein Found.	No Human Protein Found.	No Human Protein Found.	No Human Protein Found.	No Human Protein Found.	R.norvegicus long Interspersed repetitive DNA containing 7 ORF's	R.norvegicus long Interspersed repetitive DNA containing 7 ORF's	X53581cds#3 RNLINED R.norvegicus long Interspersed repetitive DNA containing 7 ORF's	TRANS- GOLGI NETWORK.	Trans-golgi network integral membrane protein TGN38 precursor.
X53581	9549	No human homolo g found.	No Human Protein Found.	No Human Protein Found.	No Human Protein Found.	No Human Protein Found.	No Human Protein Found.	R.norvegicus long Interspersed repetitive DNA containing 7 ORF's	R.norvegicus long Interspersed repetitive DNA containing 7 ORF's	X53581cds#5 RNLINED R.norvegicus long Interspersed repetitive DNA containing 7 ORF's	TRANS- GOLGI NETWORK.	Trans-golgi network integral membrane protein TGN38 precursor.
X53581	9550	No human homolo g found.	No Human Protein Found.	No Human Protein Found.	No Human Protein Found.	No Human Protein Found.	No Human Protein Found.	R.norvegicus long Interspersed repetitive DNA containing 7 ORF's	R.norvegicus long Interspersed repetitive DNA containing 7 ORF's	X53581cds#5 RNLINED R.norvegicus long Interspersed repetitive DNA containing 7 ORF's	TRANS- GOLGI NETWORK.	Trans-golgi network integral membrane protein TGN38 precursor.

Table 2.

X53773	9551	P18484	9552	AC006942	9553	AAD155 84	9554	73	alpha-c large chain (AA 1- 938)	X53773 Rat mRNA for alpha-c large chain of the protein complex AP-2 associated with clathrin /cds=(38,2852) /gb=X53773 /gl=55728 /ug=Rn.5073 /len=3109	COMPONENT OF THE COAT SURROUNDING THE CYTOPLASMIC FACE OF COATED VESICLES IN THE PLASMA MEMBRANE.	Adaptor-related protein complex 2 alpha 2 subunit (Alpha- adaptin C)(Clathrin assembly protein complex 2 alpha-C large chain) (100 kDa) coated vesicle protein C) (Plasma membrane adaptor HA2/AP2 adaptna
X53944	9555	P19020	9556	NM_0336 63	9557	P35462	9558	89.41	Dopamine receptor 3	X53944 Rat mRNA for dopamine D3 receptor /cds=(81,1421) /gb=X53944 /gl=56060 /ug=Rn.10356 /len=1481	Integral membrane protein.	D(3) dopamine receptor.
X54096	9559	P18424	9560	M12625	9561	P04180	9562	88.58	Lecithin- cholesterol acyltransferase 6	X54096 Rat mRNA for lecithin-cholesterol acyltransferase (EC 2.3.1.43) (LCAT) /cds=(21,1343) /gb=X54096 /gl=56583 /ug=Rn.10481 /len=1362		Phosphatidylcho- line-sterol acyltransferase precursor (EC 2.3.1.43)(Lecithi n-cholesterol acyltransferase) (Phospholipid- cholesterolacylir- ansferase).
X54249	9563	CAA38 150	9564	XM_04708 4		XP_047 084		75	Zinc finger protein AT- BP1	X54249mRNA RRATBP1 Rat mRNA for a zinc finger protein AT-BP1, partial cds		
X54249	9565	CAA38 150	9566	XM_04708 4		XP_047 084		75	Zinc finger protein AT- BP1	X54249mRNA RRATBP1 Rat mRNA for a zinc finger protein AT-BP1, partial cds		



Table 2.

X54510	9567	P21571	9568	BC002872	9569	P18859	9570	92.28	R.norvegicus mRNA for coupling factor 6 of mitochondrial ATP synthase complex	X54510 R.norvegicus mRNA for coupling factor 6 of mitochondrial ATP synthase complex /cds=(161,487) /gb=X54510 /gi=14214 /ug=Rn.5780 /len=573	"ATP synthase coupling factor 6, mitochondrial precursor (EC 3.6.3.14)(F6)."
X54510	9571	P21571	9572	BC002872	9573	P18859	9574	92.28	R.norvegicus mRNA for coupling factor 6 of mitochondrial ATP synthase complex	X54510 R.norvegicus mRNA for coupling factor 6 of mitochondrial ATP synthase complex /cds=(161,487) /gb=X54510 /gi=14214 /ug=Rn.5780 /len=573	"ATP synthase coupling factor 6, mitochondrial precursor (EC 3.6.3.14)(F6)."
X54510	9575	P21571	9576	BC002872	9577	P18859	9578	92.28	R.norvegicus mRNA for coupling factor 6 of mitochondrial ATP synthase complex	X54510 R.norvegicus mRNA for coupling factor 6 of mitochondrial ATP synthase complex /cds=(161,487) /gb=X54510 /gi=14214 /ug=Rn.5780 /len=573	"ATP synthase coupling factor 6, mitochondrial precursor (EC 3.6.3.14)(F6)."
X54510	9579	P21571	9580	BC002872	9581	P18859	9582	92.28	R.norvegicus mRNA for coupling factor 6 of mitochondrial ATP synthase complex	X54510 R.norvegicus mRNA for coupling factor 6 of mitochondrial ATP synthase complex /cds=(161,487) /gb=X54510 /gi=14214 /ug=Rn.5780 /len=573	"ATP synthase coupling factor 6, mitochondrial precursor (EC 3.6.3.14)(F6)."
X54617	9583	CAA38 437	9584	XM_04167 7	XP_041 677			100	RLC-A gene for myosin regulatory light chain	X54617mRNA RNRLCAE4 Rat RLC-A gene for myosin regulatory light chain, exon 4	

Table 2.

X54793	9585	P19226	9586	BF063615	9587	P10809	9588	95	Heat shock protein 60 (liver)	X54793 Rat liver mRNA for heat shock protein (hsp60) /cds=(6,1727) /gb=X54793 /gi=56382 /ug=Rn.221 /len=2175	Mitochondrial matrix.	"60 kDa heat shock protein, precursor (Hsp60) (60 kDachaperonin) (CPN60) (Heat shock protein 60) (HSP-60) (Mitochondrial matrix protein P1) (HSP-65)."
X55286	9589	P51639	9590	M11058	9591	P04035	9592	92	3-hydroxy-3-methylglutaryl-Coenzyme A reductase	X55286 R.norvegicus mRNA for HMG-CoA reductase /cds=(0,734) /gb=X55286 /gi=286824 /ug=Rn.10469 /len=1159	Integral membrane protein. Endoplasmic reticulum.	3-hydroxy-3-methylglutaryl-coenzyme A reductase (EC 1.1.1.34) (HMG-CoA reductase).
X55286	9593	P51639	9594	M11058	9595	P04035	9596	92	3-hydroxy-3-methylglutaryl-Coenzyme A reductase	X55286 R.norvegicus mRNA for HMG-CoA reductase /cds=(0,734) /gb=X55286 /gi=286824 /ug=Rn.10469 /len=1159	Integral membrane protein. Endoplasmic reticulum.	3-hydroxy-3-methylglutaryl-coenzyme A reductase (EC 1.1.1.34) (HMG-CoA reductase).
X55286	9597	P51639	9598	M11058	9599	P04035	9600	92	3-hydroxy-3-methylglutaryl-Coenzyme A reductase	X55286 R.norvegicus mRNA for HMG-CoA reductase /cds=(0,734) /gb=X55286 /gi=286824 /ug=Rn.10469 /len=1159	Integral membrane protein. Endoplasmic reticulum.	3-hydroxy-3-methylglutaryl-coenzyme A reductase (EC 1.1.1.34) (HMG-CoA reductase).

Table 2.

X55286	9601	P51839	9602	M11058	9603	P04035	9604	92	3-hydroxy-3-methylglutaryl-Coenzyme A reductase	X55286 R.norvegicus mRNA for HMG-CoA reductase /cds=(0,734) /gb=X55286 /gi=296924 /ug=Rn.10469 /len=1159	Integral membrane protein. Endoplasmic reticulum.	3-hydroxy-3-methylglutaryl-coenzyme A reductase (EC 1.1.1.34) (HMG-CoA reductase).
X55446	9605	P24470	9606	AW450584	9607	NP_000760	9608	89.03	Rat cytochrome P-450 (CYP2C23)	X55446mRNA Rat mRNA for cytochrome P-450 (CYP2C23) /cds=UNKNOWN /gb=X55446 /gi=56824 /ug=Rn.2184 /len=2088	Membrane-bound. Endoplasmic reticulum.	Cytochrome P450 2C23 (EC 1.14.14.1) (CYP11C23) (Arachidonic aciddepoxygenase).
X55660	9609	P23377	9610	X17094	9611	P09958	9612	95.49	pcRF104 mRNA for furin	X55660 Rat pcRF104 mRNA for furin /cds=(443,2824) /gb=X55660 /gi=56171 /ug=Rn.3220 /len=4259	SEEMS TO BE LOCALIZED INTRACELLULARLY TO THE TRANS GOLGI NETWORK. PROPEPTIDASE	Furin precursor (EC 3.4.21.75) (Paired basic amino acid residuecleaving enzyme) (PACE) (Dibasic processing enzyme).

Table 2.

X55660	9613	P23377	9614	X17094	9615	P09958	9616	95.49	furin prepeptide	X55660 Rat pcrF104 mRNA for furin /cds=(443,2824) /gb=X55660 /gi=56171 /ug=Rn.3220 /len=4269	SEEMS TO BE LOCALIZED INTRACELL ULARLY TO THE TRANS GOLGI NETWORK. PROPEPTID E CLEAVAGE IS A PREREQUIS ITE FOR EXIT OF FURIN MOLECULE S OUT OF THE ENDOPLAS MIC RETICULUM (ER). SECOND CLEAVAGE IN THE PROPEP Mitochondrial inner membrane.	Furin precursor (EC 3.4.21.75) (Paired basic amino acid residuecleaving enzyme) (PACE) (Dibasic processing enzyme).
X56133	9617	P15989	9618	NM_0040 46	9619	P25705	9620	97	F1-ATPase alpha subunit	X56133 Rat mRNA for F1-ATPase alpha subunit (EC 3.6.1.34) /cds=(0,707) /gb=X56133 /gi=57028 /ug=Rn.7138 /len=1086	PROPEP Mitochondrial inner membrane.	"ATP synthase alpha chain, mitochondrial precursor (EC 3.6.3.14)(Fragm ent)." "
X56228	9621	P24329	9622	XM_03866 1		XP_038 661		90	Rhodanese	X56228 Rat mRNA for rhodanese /cds=(0,887) /gb=X56228 /gi=57068 /ug=Rn.6360 /len=989	Mitochondrial matrix.	Thiosulfate sulfurtransferas e (EC 2.8.1.1) (Rhodanese) (Fragment).

Table 2.

X56228	9623	P24329	9624	XM_038661	XP_038661	90	Rhodanese	X56228 Rat mRNA for rhodanese /cds=(0,887) /gb=X56228 /gi=57068 /lug=Rn.8360 /len=999	Mitochondrial matrix	Thiosulfate sulfurtransferase (EC 2.8.1.1) (Rhodanese) (Fragment).
X56306	9625	P06767	9626	X54469	9627	9628	93.07	Tachykinin (substance P, neurokinin A, neuropeptide K, neuropeptide gamma)	X56308 Rat mRNA of delta-preprotachykinin - a splicing variant of substance P precursor /cds=(4,297) /gb=X56308 /gi=56067 /lug=Rn.1920 /len=342	Protachykinin 1 precursor (PPT) [Contains: Substance P; Neurokinin A(NKA) (Substance K) (Neurokinin L); Neuropeptide K (NPk); Neuropeptide gamma; C- terminal flanking peptide].
X56551	9628	Q02195	9630	A36301	P21781	9631	90	Fibroblast growth factor 7	X56551 cds RNMRNAKGF R.norvegicus mRNA for keratinocyte growth factor	Keratinocyte growth factor precursor (KGF) (Fibroblast growth factor-7) (FGF-7) (HBGF- 7).
X56598	9632	P29826	9633	BM727355	P05538	9635	96.89	Rat mRNA for MHC class II antigen RT1.B- 1 beta-chain	X56598 Rat mRNA for MHC class II antigen RT1.B-1 beta-chain /cds=(7,798) /gb=X56598 /gi=57152 /lug=Rn.20089 /len=1374	"RT1 class II histocompatibility antigen, B-1 beta chain precursor(RT1. B-beta(1))."
X56729	9636	CAA40053	9637	D16217	P20810	9639	56	calpastatin/CA NP inhibitor	X56729 mRNA RSCALPST Rat mRNA for calpastatin	
X56729	9640	CAA40053	9641	D16217	P20810	9643	56	calpastatin/CA NP inhibitor	X56728 mRNA RSCALPST Rat mRNA for calpastatin	

Table 2.

X57405	9644	CAA40 667	9645	XM_03467 1	9646	XP_034 671	9647	51	Homologue of Drosophila notch protein	X57405 RRNOTCH R.rattus mRNA homologue of Drosophila notch protein			
X57405	9648	CAA40 667	9649	XM_03467 1	9650	XP_034 671	9651	51	Homologue of Drosophila notch protein	X57405 RRNOTCH R.rattus mRNA homologue of Drosophila notch protein			
X57405	9652	CAA40 667	9653	XM_03467 1	9654	XP_034 671	9655	51	Homologue of Drosophila notch protein	X57405 RRNOTCH R.rattus mRNA homologue of Drosophila notch protein			
X57405	9656	CAA40 667	9657	XM_03467 1	9658	XP_034 671	9659	51	Homologue of Drosophila notch protein	X57405 RRNOTCH R.rattus mRNA homologue of Drosophila notch protein			
X57523	9660	P36370	9661	M84748	9662	Q03519	9663	89.32	R.norvegicus mtp1 mRNA	X57523 R.norvegicus mtp1 mRNA /cds=(0.2224) /gb=X57523 /gi=56716 /ug=Rn.10763 /len=2664	Integral membrane protein.	Antigen peptide transporter 1 (APT1).	
X57523	9664	P36370	9665	M84748	9666	Q03519	9667	89.32	mtp1	X57523 R.norvegicus mtp1 mRNA /cds=(0.2224) /gb=X57523 /gi=56716 /ug=Rn.10763 /len=2664	Integral membrane protein.	Antigen peptide transporter 1 (APT1).	
X58200	9668	CAA41 177	9669	NM_0009 78	9670	P23131	9671	94	ribosomal protein L23	X58200mRNA RRRPL23 Rat mRNA for ribosomal protein L23			
X58200	9672	CAA41 177	9673	NM_0009 78	9674	P23131	9675	94	ribosomal protein L23	X58200mRNA RRRPL23 Rat mRNA for ribosomal protein L23			
X58294	9676	P27139	9677	J03037	9678	P00918	9679	85.71	Carbonic anhydrase II	X58294 R.norvegicus mRNA for carbonic anhydrase II /cds=(8.790) /gb=X58294 /gi=55837 /ug=Rn.3525 /len=1459	Cytoplasmic.	Carbonic anhydrase II (EC 4.2.1.1) (Carbonate dehydratase II) (CA-II).	
X58631	9680	CAA41 484	9681	NM_0043 83	9682	P41240	9683	98	protein- tyrosine kinase	X58631cds RPTYKI Rat mRNA for protein- tyrosine kinase			

Table 2.

X58830	9684	Q04806	9685	A1367148	9686	P22004	9687	92.19	Bone morphogenetic protein 6	X58830 Rat vgr mRNA /cds=(0.623) /gb=X58830 /gi=57475 /ug=Rn.10436 /len=1241	Bone morphogenetic protein 6 precursor (BMP-6) (VG-1-related protein)(VGR-1) (Fragment).
X58865	9688	P30835	9689	D25328	9690	Q01813	9691	91.38	6-phosphofructokinase	X58865mRNA Rat PFK-L mRNA for liver phosphofructokinase /cds=UNKNOWN /gb=X58865 /gi=56886 /ug=Rn.10981 /len=2740	"6-phosphofructokinase, liver type (EC 2.7.1.11) (Phosphofructokinase1) (Phosphohexokinase) (Phosphofructo-1-kinase isozyme B) (PFK-B)." R.
X59132	9692	P23811	9693	A1220044	9694	P47872	9695	93.85	Secretin receptor	X59132 R.norvegicus mRNA for secretin receptor /cds=(212,1561) /gb=X59132 /gi=57228 /ug=Rn.10977 /len=1798	Secretin receptor precursor (SCT-R).
X59677	9696	CAA42 203	9697	NM_0039 84	9698	Q13183	9699	88	Rattus sp. cDNA for M2 gene (clone M2-798)	X59677mRNA RSM2798 Rattus sp. cDNA for M2 gene (clone M2-798)	Integral membrane protein.
X59737	9700	CAA42 415	9701	NM_0209 90	9702	NP_066 270	9703	89	Ubiquitous mitochondrial creatine kinase	X59737mRNA RRCKUM Rat mRNA for ubiquitous mitochondrial creatine kinase	
X59737	9704	CAA42 415	9705	NM_0209 90	9706	NP_066 270	9707	89	Ubiquitous mitochondrial creatine kinase	X59737mRNA RRCKUM Rat mRNA for ubiquitous mitochondrial creatine kinase	
X59737	9708	CAA42 415	9709	NM_0209 90	9710	NP_066 270	9711	89	Ubiquitous mitochondrial creatine kinase	X59737mRNA RRCKUM Rat mRNA for ubiquitous mitochondrial creatine kinase	

Table 2.

X59737	9712	CAA42 415	9713	NM_0209 90	9714	NP_066 270	9715	89	Ubiquitous mitochondrial creatine kinase		X59737 mRNA RROKUM Rat mRNA for ubiquitous mitochondrial creatine kinase				
X59859	9716	Q01129	9717	NM_0019 20	9718	P07585	9719	74	DCN mRNA for decorin		X59859 R.norvegicus DCN mRNA for decorin /cds=(0,1034) /gb=X59859 /gl=56056 /ug=Rn.3819 /len=1534	Extracellular matrix.			Decorin precursor (Bone proteoglycan II) (PG-S2) (PG40) (Dermatansulfat e proteoglycan- II) (DSPG).
X59859	9720	Q01129	9721	NM_0019 20	9722	P07585	9723	74	Decorin		X59859 R.norvegicus DCN mRNA for decorin /cds=(0,1034) /gb=X59859 /gl=56056 /ug=Rn.3819 /len=1534	Extracellular matrix.			Decorin precursor (Bone proteoglycan II) (PG-S2) (PG40) (Dermatansulfat e proteoglycan- II) (DSPG).
X59859	9724	Q01129	9725	NM_0019 20	9726	P07585	9727	74	decorin	AI639233	X59859 R.norvegicus DCN mRNA for decorin /cds=(0,1034) /gb=X59859 /gl=56056 /ug=Rn.3819 /len=1534	Extracellular matrix.			Decorin precursor (Bone proteoglycan II) (PG-S2) (PG40) (Dermatansulfat e proteoglycan- II) (DSPG).



Table 2.

X59859	9728	Q01129	9729	NM_001920	9730	P07585	9731	74	DCN mRNA for decorin	A1639233	X59859 R.norvegicus DCN mRNA for decorin /cds=(0,1034) /gb=X59859 /gi=56058 /lug=Rn.3819 /len=1534	Extracellular matrix.	Decorin precursor (Bone proteoglycan II) (PG-S2) (PG40) (Dermatansulfate proteoglycan-II) (DSPG).
X59859	9732	Q01129	9733	NM_001920	9734	P07585	9735	74	Decorin	A1639233	X59859 R.norvegicus DCN mRNA for decorin /cds=(0,1034) /gb=X59859 /gi=56058 /lug=Rn.3819 /len=1534	Extracellular matrix.	Decorin precursor (Bone proteoglycan II) (PG-S2) (PG40) (Dermatansulfate proteoglycan-II) (DSPG).
X59859	9736	Q01129	9737	NM_001920	9738	P07585	9739	74	decorin	A1639233	X59859 R.norvegicus DCN mRNA for decorin /cds=(0,1034) /gb=X59859 /gi=56058 /lug=Rn.3819 /len=1534	Extracellular matrix.	Decorin precursor (Bone proteoglycan II) (PG-S2) (PG40) (Dermatansulfate proteoglycan-II) (DSPG).
X59864	9740	CAA42524	9741	No Human	No Human Protein Found.	No Human Protein Found.			ASM15 gene		X59864mRNA RRASM15 Rat ASM15 gene		
X59864	9742	CAA42524	9743	No Human	No Human Protein Found.	No Human Protein Found.			ASM15 gene		X59864mRNA RRASM15 Rat ASM15 gene		

Table 2.

X59864	9744	CAA42 524	9745	No Human Protein Found.	No Human Protein Found.	9751	96	ASM15 gene	X59864mRNA RRASM15 Rat ASM15 gene	
X59864	9746	CAA42 524	9747	No Human	No Human			ASM15 gene	X59864mRNA RRASM15 Rat ASM15 gene	
X59861	9748	CAA42 585	9749	NIM_0035 24	NP_003 515	9751	96	H2A and H2B histones	X59861cds#2 R.norvegicus genes for H2A and H2B Histones /cds=(0,377) /gb=X59861 /gi=56345 /ug=Rn.11690 /len=378	
X60212	9752	P24048	9753	NIM_0009 85	P18621	9755	91	ribosomal protein L22	X60212 R.norvegicus ASI mRNA for mammalian equivalent of bacterial large ribosomal subunit protein L22 /cds=(29,583) /gb=X60212 /gi=57110 /ug=Rn.11395 /len=612	60S ribosomal protein L17 (L23) (Amino acid starvation- induced protein) (ASI).
X60468	9756	CAA42 998	9757	NM_0011 84	O00213	9759	89	Integrase-like protein, APP interacting protein	X60468mRNA RRFE65 R.rattus FE65 gene for adaptor protein interacting with the beta- amyloid precursor protein intracellular domain	
X60469	9760	CAA42 999	9761	NIM_0011 84	O00213	9763	93	Integrase-like protein, APP interacting protein	X60469mRNA RRFE65 R.rattus FE65 mRNA for adaptor protein interacting with beta- amyloid precursor protein intracellular domain	
X60469	9764	CAA42 999	9765	NM_0011 84	O00213	9767	93	Integrase-like protein, APP interacting protein	X60469mRNA RRFE65 R.rattus FE65 mRNA for adaptor protein interacting with beta- amyloid precursor protein intracellular domain	

Table 2.

X60767	9768	P39951	9769	X05360	9770	P06493	9771	84.77	Cell division cycle control protein 2	X60767 mRNA RRCDC2MR R. norvegicus mRNA for cdc2 promoter region	Nuclear.	Cell division control protein 2 homolog (EC 2.7.1.-) (p34 protein kinase) (Cyclin- dependent kinase 1) (CDK1).
X60769	9772	P21272	9773	NM_0051 94	9774	NP_005 185	9775	53	SF-B (silencer factor B)	X60769 mRNA Rat sfb mRNA for silencer factor B /cds=UNKNOWN /gb=X60769 /gi=57238 /ug=Rn.6479 /len=1146	Nuclear.	CCAAT/enhanc er binding protein beta (C/EBP beta) (Interleukin-6- dependent binding protein) (IL-6DBP) (Liver- enriched transcriptionalac tivator) (LAP) (Silencer factor B) (SF-B) (C/EBP-related protein 2
X61295	9776	CAA43 593	9777	U93574	9778	AAC512 78	9779	65	R. norvegicus L1 retroposon, ORF2 mRNA (partial)	X61295cds RNL1RTO2B R. norvegicus L1 retroposon, ORF2 mRNA (partial)		
X61381	9780	CAA43 655	9781	BC008794	9782	Q01628	9783	65	Interferon induced mRNA	X61381cds RRIIMRNA R. rattus Interferon induced mRNA		

Table 2.

X61654	9784	P28848	9785	X07982	9786	P08962	9787	78	Cd63 antigen	X61654 Rat mRNA for ad1-antigen /cds=(60,776) /gb=X61654 /gi=55601 /ug=Rn.11088 /len=880	Integral membrane protein. Lysosomal. SECRETOR Y GRANULES AND PLASMA MEMBRANE OF MANY CULTURED CELL LINES.	CD63 antigen (AD1 antigen).
X62322	9788	P23785	9789	X62320	9790	P28789	9791	89.83	Granulin	X62322 R.norvegicus mRNA for epithelin 1 and 2 /cds=(30,1799) /gb=X62322 /gi=58108 /ug=Rn.8820 /len=2137		Granulins precursor (Acrogranin) [Contains: Granulin 1 (Granulin G); Granulin 2 (Granulin F); Granulin 3 (Granulin B) (Epithelin 2); Granulin 4 (Granulin A) (Epithelin 1); Granulin 5 (Granulin C); Granul

Table 2.

X62322	9792	P23785	9793	X62320	9794	P28789	9795	89.93	Granulin	X62322 R.norvegicus mRNA for epithelin 1 and 2 /cds=(30,1798) /gb=X62322 /gi=56108 /ug=Rn.5820 /len=2137	Granulins precursor (Acrogranin) [Contains: Granulin 1 (Granulin G); Granulin 2 (Granulin F); Granulin 3 (Granulin B) (Epithelin 2); Granulin 4 (Granulin A) (Epithelin 1); Granulin 5 (Granulin C); Granul
X62323	9796	P21677	9787	AA504291	9798	XP_047600	9799	93.65	Pan-1	X62323 R.norvegicus Pan-1 mRNA /cds=(0,1917) /gb=X62323 /gi=35277 /ug=Rn.10290 /len=2001	Nuclear. Transcription factor E2-alpha (Immunoglobulin enhancer binding factor E12/E47) (Transcription factor-3) (TCF-3) (Transcription regulatorPan).
X62325	9800	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			TcRValpha T4 8a2 mRNA for T cell receptor V-alpha J-alpha	X62325cds RRTRT48A2 R.rattus TcRValpha T48a2 mRNA for T cell receptor V-alpha J-alpha	

**Table 2.**

X62325	9801	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	R. rattus TcRValphaT4 8a2 mRNA for T cell receptor V-alpha J-alpha	X62325cde RRTRT48A2 R.rattus TcRValphaT48a2 mRNA for T cell receptor V-alpha J-alpha
X62660	9802	CAB46 530	9803	9804	9805	X62660mRNA RRGTS8 R.rattus mRNA for glutathione transferase subunit 8
X62839	9806	CAA44 643	9807	9808	9809	X62839mRNA RRP3120 R.rattus mRNA for potassium channel protein (3120 bp)
X62839	9810	CAA44 643	9811	9812	9813	X62839mRNA RRP3120 R.rattus mRNA for potassium channel protein (3120 bp)
X62840	9814	CAA44 644	9815	9816	9817	X62840mRNA RRP3145 R.rattus mRNA for potassium channel protein (3145 bp)
X62841	9818	CAA44 645	9819	9820	9821	X62841mRNA RRP32858 R.rattus mRNA for potassium channel protein (2858 bp)
X62875	9822	No Rat Protein Found.	XM_04324 4	XP_043 244		X62875mRNA RNHMG1 R.norvegicus mRNA for High Mobility Group Protein 1 (Y), 3 UTR
X62875	9823	No Rat Protein Found.	XM_04324 4	XP_043 244		X62875mRNA RNHMG1 R.norvegicus mRNA for High Mobility Group Protein 1 (Y), 3 UTR
X62950	9824	AAA408 72	9825	XP_003 009		X62950mRNA RNPBUS30 R.norvegicus mRNA (pBUS30) with repetitive elements
X62952	9826	P31000	9827	9828	9829	X62952 R.norvegicus mRNA for vimentin /gls=(80,1480) /gb=X62952 /gl=57479 /ug=Rn.2710 /len=1786
X63143	9830	CAA44 848	9831	9832	9833	X63143 RNEUROG Rattus rattus mRNA for neuroglycan, partial

Table 2.

X63375	9834	AAA407 80	9835	NM_0016 77	9836	P05026	9837	90	Beta-1 subunit of Na,K- ATPase	J02701	X63375exon RRB1NKATP R.rattus gene for beta-1 subunit of Na,K-ATPase	
X63375	9838	AAA407 80	9839	NM_0016 77	9840	P05026	9841	90	Beta-1 subunit of Na,K- ATPase	J02701	X63375exon RRB1NKATP R.rattus gene for beta-1 subunit of Na,K-ATPase	
X63594	9842	CAA45 138	9843	NM_0205 29	9844	P25963	9845	85	NF-KAPPA B INHIBITOR ALPHA		X63594cds RRRLIF1 R.rattus RL/IF-1 mRNA	
X63594	9846	CAA45 138	9847	NM_0205 29	9848	P25963	9849	85	NF-KAPPA B INHIBITOR ALPHA		X63594cds RRRLIF1 R.rattus RL/IF-1 mRNA	
X63594	9850	CAA45 138	9851	NM_0205 29	9852	P25963	9853	85	NF-KAPPA B INHIBITOR ALPHA		X63594cds RRRLIF1 R.rattus RL/IF-1 mRNA	
X63594	9854	CAA45 138	9855	NM_0205 29	9856	P25963	9857	85	NF-KAPPA B INHIBITOR ALPHA		X63594cds RRRLIF1 R.rattus RL/IF-1 mRNA	
X63854	9858	P36372	9859	X57522	9860	Q03518	9861	88	mtp2a		X63854 Rat mRNA for transporter polypeptide mtp2 /cds=(88,2200) /gb=X63854 /gi=56718 /ug=Rn.10372 /len=2426	Integral membrane protein.
X64401	9862	P04800	9863	J04813	9864	P20815	9865	85,86	Cytochrome P450 PCN1		X64401cds RNCYP3A1R R.norvegicus CYP 3A1 mRNA	Membrane- bound. Endoplasmic reticulum.
X64403	9866	P26801	9867	U20240	9868	P53567	9869	92	Rat homolog to a human CCAAT/enhan cer binding protein - gamma		X64403 R.norvegicus c/ebp gamma mRNA /cds=(0,707) /gb=X64403 /gi=55927 /ug=Rn.10332 /len=1430	Nuclear.
X65228	9870	CAA46 336	9871	NM_0009 84	9872	P29316	9873	98	Ribosomal protein L23a		X65228cds RRRPL23A R.rattus mRNA for ribosomal protein L23a	

Antigen peptide  
transporter 2  
(APT2).Cytochrome  
P450 3A1 (EC  
1.14.14.1)  
(CYP3A1)  
(P450-PCN1).CCAAT/enhanc  
er binding  
protein gamma  
(C/EBP  
gamma).

Table 2.

X65454	9874	Q64375	9875	U47621	9876	Q92791	9877	93.83	SC65 synaptonemal complex protein	X65454 R.norvegicus mRNA for SC65 synaptonemal complex protein /cds=(19,1314) /gb=X65454 /gl=57191 /ug=Rn.10547 /len=1407	NUCLEAR. LOCATED IN THE PAIRING ZONE OF THE SYNAPTON EMAL COMPLEX.	Synaptonemal complex protein SC65.
X65454	9878	Q64375	9879	U47621	9880	Q92791	9881	93.83	SC65 synaptonemal complex protein	X65454 R.norvegicus mRNA for SC65 synaptonemal complex protein /cds=(19,1314) /gb=X65454 /gl=57191 /ug=Rn.10547 /len=1407	NUCLEAR. LOCATED IN THE PAIRING ZONE OF THE SYNAPTON EMAL COMPLEX.	Synaptonemal complex protein SC65.
X65454	9882	Q64375	9883	U47621	9884	Q92791	9885	93.83	SC65 synaptonemal complex protein	X65454 R.norvegicus mRNA for SC65 synaptonemal complex protein /cds=(19,1314) /gb=X65454 /gl=57191 /ug=Rn.10547 /len=1407	NUCLEAR. LOCATED IN THE PAIRING ZONE OF THE SYNAPTON EMAL COMPLEX.	Synaptonemal complex protein SC65.
X65454	9886	Q64375	9887	U47621	9888	Q92791	9889	93.83	SC65 synaptonemal complex protein	X65454 R.norvegicus mRNA for SC65 synaptonemal complex protein /cds=(19,1314) /gb=X65454 /gl=57191 /ug=Rn.10547 /len=1407	NUCLEAR. LOCATED IN THE PAIRING ZONE OF THE SYNAPTON EMAL COMPLEX.	Synaptonemal complex protein SC65.



Table 2.

X65948	9890	P29053	9891	M76766	9892	Q00403	9893	89.74	alpha initiation factor	X65948 R.norvegicus mRNA for alpha initiation factor /cds=(16,966) /gb=X65948 /g=55623 /ug=Rn.8108 /len=1227	Nuclear.	Transcription initiation factor IIB (General transcription factor/TFIIB) (RNA polymerase II alpha initiation factor).
X66022	9894	P56163	9895	U43843	9896	Q82782	9897	93.5	Neuro-d4	X66022mRNA#1 RNND4P R.norvegicus mRNA for neuro-D4 protein	Nuclear and cytoplasmic.	Zinc-finger protein neuro-d4.
X66140	9898	Q63180	9899	AF215824	9900	Q9H2U9	9901	82.3	Epididymal apical protein I	X66140 R.norvegicus mRNA for epididymal apical protein I /cds=(46,2415) /gb=X66140 /g=56089 /ug=Rn.10357 /len=3586	Type I membrane protein.	ADAM 7 precursor (A disintegrin and metalloproteinase domain 7)(Epididymal apical protein I) (EAP I).
X66366	9902	Q03555	9903	AK025169	9904	Q9NQX <sub>3</sub>	9905	95.58	Gephyrin	X66366 R.norvegicus mRNA for gephyrin /cds=(273,2483) /gb=X66366 /g=56311 /ug=Rn.11032 /len=3345	CYTOPLASMIC OF GLYCINERGIC POSTSYNAPTIC MEMBRANE S.	Gephyrin (Putative glycine receptor-tubulin linker protein).
X66366	9906	Q03555	9907	AK025169	9908	Q8NQX <sub>3</sub>	9909	95.58	Gephyrin	X66366 R.norvegicus mRNA for gephyrin /cds=(273,2483) /gb=X66366 /g=56311 /ug=Rn.11032 /len=3345	CYTOPLASMIC OF GLYCINERGIC POSTSYNAPTIC MEMBRANE S.	Gephyrin (Putative glycine receptor-tubulin linker protein).

Table 2.

X66494	9910	P28570	9911	S74039	9912	P48029	9913	95.91	CHOT1 mRNA	X66494 R.norvegicus CHOT1 mRNA /cds=(636,2543) /gb=X66494 /gi=55948 /lug=Rn.10336 /len=3957	Integral membrane protein.	Sodium-dependent choline transporter (CHOT1).
X66845	9914	Q63100	9915	AF063228	9916	O14576	9917	93.2	Dynein, cytoplasmic, intermediate chain 1	X66845 R.norvegicus mRNA for cytoplasmic dynein 74 kD intermediate chain /cds=(158,2089) /gb=X66845 /gi=55923 /lug=Rn.11273 /len=2640		"Dynein intermediate chain 1, cytosolic (DHIC1) (Cytoplasmic dynein intermediate chain 1)."
X66870	9918	P48679	9919	AF381029	9920	P02545	9921	92.76	lamin A	X66870 R.norvegicus mRNA for lamin A /cds=(165,2087) /gb=X66870 /gi=55550 /lug=Rn.90 /len=3089	Nuclear.	Lamin A.
X66974	9922	P47728	9923	NM_007087	9924	P22876	9925	92.88	R.norvegicus mRNA for calretinin	X66974 R.norvegicus mRNA for calretinin /cds=(54,869) /gb=X66974 /gi=55852 /lug=Rn.10321 /len=1436		Calretinin (CR).
X66974	9926	P47728	9927	NM_007087	9928	P22876	9929	92.88	R.norvegicus mRNA for calretinin	X66974 R.norvegicus mRNA for calretinin /cds=(54,869) /gb=X66974 /gi=55852 /lug=Rn.10321 /len=1436		Calretinin (CR).
X67788	9930	P31977	9931	X51521	9932	P15311	9933	95	Ezrin	X67788 R.norvegicus mRNA for ezrin p81 /cds=(0,483) /gb=X67788 /gi=56125 /lug=Rn.773 /len=1489	Cytoplasmic.	Ezrin (p81) (Cyto villin) (Villin 2) (Fragment).
X67859	9934	P38656	9935	NM_003142	9936	P05455	9937	78	MRNA for autoantigen	X67859 R.norvegicus mRNA for autoantigen /cds=(37,1284) /gb=X67859 /gi=55778 /lug=Rn.24494 /len=1501	Nuclear.	Lupus La protein homolog (La ribonucleoprotein) (La autoantigen homolog).
X67859	9938	P38656	9939	NM_003142	9940	P05455	9941	78	MRNA for autoantigen	X67859 R.norvegicus mRNA for autoantigen /cds=(37,1284) /gb=X67859 /gi=55778 /lug=Rn.24494 /len=1501	Nuclear.	Lupus La protein homolog (La ribonucleoprotein) (La autoantigen homolog).

Table 2.

X67877	9942	CAA48 076	9943	XM_03700 4	9944	XP_037 004	9945	67	cytosolic resiniferatoxin binding protein RBP- 26	AA943331	X67877 R.norvegicus mRNA for cytosolic resiniferatoxin-binding protein /cds=(28,735) /gb=X67877 /gi=311659 /ug=Rn.10317 /len=1526	
X67877	9946	CAA48 076	9947	XM_03700 4	9948	XP_037 004	9949	67	cytosolic resiniferatoxin binding protein RBP- 26		X67877 R.norvegicus mRNA for cytosolic resiniferatoxin-binding protein /cds=(28,735) /gb=X67877 /gi=311659 /ug=Rn.10317 /len=1526	
X68101	9950	CAA48 220	9951	AB028981	9952	XP_048 926		90.06	tg		X68101 R.norvegicus tg mRNA /cds=(0,2217) /gb=X68101 /gi=550419 /ug=Rn.10431 /len=3227	
X68394	9953	CAA48 460	9954	NM_0025 24	9955	P01111	9956	94	N-ras gene for p21protein		X68394 R.norvegicus N-ras gene for p21 protein /cds=(135,704) /gb=X68394 /gi=56768 /ug=Rn.11271 /len=3350	
X68782	9957	CAA48 681		BC009851	9958	P01871	9959	59	Ig heavy chain VDJ-region CH1-CH2		X68782cds RNIGHCH R.norvegicus mRNA for Ig heavy chain VDJ-region CH1-CH2	
X69903	9960	CAA48 528	9961	NM_0004 18	9962	P24394	9963	46	Interleukin 4 receptor		X69903 R.norvegicus mRNA for interleukin 4 receptor /cds=(9,2411) /gb=X69903 /gi=56390 /ug=Rn.10471 /len=2450	
X70062	9964	Q04679	9965	X88400	9966	Q15332	9967	88.24	Gamma subunit of sodium potassium ATPase	Type III membrane protein .	X70062 R.norvegicus mRNA for gamma subunit of sodium potassium ATPase /cds=(26,202) /gb=X70062 /gi=56298 /ug=Rn.6700 /len=645	Sodium/potassi um-transporting ATPase gamma chain (Sodium pump gamma chain) (Na+/K+ ATPase gamma subunit) (FXD domain- containing iontransport regulator 2).

Table 2.

X70662	9968	Q63277	9969	U33428	9970	Q14722	9971	92.4	potassium channel		X70662 R.norvegicus mRNA for K+ channel protein, beta subunit /cds=(331,1536) /gb=X70662 /gi=467797 /ug=Rn.10478 /len=1706	Cytoplasmic	Voltage-gated potassium channel beta-1 subunit (K+ channel beta-1 subunit) (Kv-beta-1).
X70667	9972	CAA50005	9973	NM_019888	9974	NP_063941	9975	88	Melanocortin-3 receptor		X70667cds RRM33RA R.rattus mRNA for melanocortin-3 receptor		
X70706	9976	Q63598	9977	NM_005032	9978	P13797	9979	91.22	T-plastin		X70706cds RNTPLAS R.norvegicus mRNA for T-plastin	Cytoplasmic	T-plastin.
X71127	9980	P31721	9981	X03084	9982	P02746	9983	81.22	complement protein C1q beta chain		X71127 R.norvegicus mRNA for complement protein C1q beta chain /cds=(187,948) /gb=X71127 /gi=510191 /ug=Rn.6702 /len=1095		"Complement C1q subcomponent, B chain precursor."
X71127	9984	P31721	9985	X03084	9986	P02746	9987	81.22	complement protein C1q beta chain		X71127 R.norvegicus mRNA for complement protein C1q beta chain /cds=(187,948) /gb=X71127 /gi=510191 /ug=Rn.6702 /len=1095		"Complement C1q subcomponent, B chain precursor."
X72757	9988	CAA51286	9989	XM_012265		XP_012265		79	R.norvegicus cox Via gene (liver)		X72757 R.norvegicus cox Via gene (liver) /cds=(58,354) /gb=X72757 /gi=495266 /ug=Rn.880 /len=607		
X72757	9990	CAA51286	9991	XM_012265		XP_012265		79	R.norvegicus cox Via gene (liver)		X72757 R.norvegicus cox Via gene (liver) /cds=(58,354) /gb=X72757 /gi=495266 /ug=Rn.880 /len=607		
X73371	9992	Q63203	9993	NM_004001	9994	P31994	9995	52	Fc gamma receptor		X73371 R.norvegicus mRNA for Fc gamma receptor /cds=(124,981) /gb=X73371 /gi=397576 /ug=Rn.10363 /len=1430	Type I membrane protein.	Low affinity immunoglobulin gamma FC region receptor (Fc-gamma RI) (IGG FC (FCRI)) (IGG FC receptor II beta).

Table 2.

X73653	9996	P18268	9997	BC000251	9998	P49841	9999	91.73	Tau protein kinase I	X73653 R. norvegicus mRNA for tau protein kinase I /cde=(139,1401) /gb=X73653 /gi=402651 /ug=Rn.10426 /len=1525	Glycogen synthase kinase 3 beta (EC 2.7.1.37) (GSK-3 beta) (Factor A)(FA).
X73911	10000	P36633	10001	U11863	10002	P19801	10003	87.81	Amiloride binding protein	X73911 R.norvegicus mRNA for amiloride binding protein (long form) /cde=(73,2313) /gb=X73911 /gi=395064 /ug=Rn.3180 /len=2650	Extracellular. Amiloride-sensitive amine oxidase [copper-containing] precursor(EC 1.4.3.6) (Diamine oxidase) (DAO) (Amiloride-binding protein)(ABP) (Histaminase).
X74226	10004	CAA52297	10005	AB014538	10006	BAB55164	10007	93.84	LL5 mRNA	X74226 R.norvegicus LL5 mRNA /cde=(152,2497) /gb=X74226 /gi=397578 /ug=Rn.11128 /len=3745	Cytoplasmic. RAB GDP dissociation inhibitor alpha (RAB GDI alpha) (GDI-1).
X74402	10008	P50398	10009	X79353	10010	P31150	10011	90.77	rab GDI alpha	X74402 R.norvegicus rab GDI alpha mRNA /cde=(30,1373) /gb=X74402 /gi=398430 /ug=Rn.11024 /len=1401	
X74593	10012	P27867	10013	L29008	10014	Q00796	10015	82	Sorbitol dehydrogenase	X74593 R.norvegicus mRNA for sorbitol dehydrogenase /cde=(56,1255) /gb=X74593 /gi=397358 /ug=Rn.11334 /len=2234	
X74800	10016	CAA52807	10017	X98507	10018	O00159	10019	91	MYR2 mRNA for myosin I heavy chain	X74800 R.norvegicus MYR2 mRNA for myosin I heavy chain /cde=(266,3352) /gb=X74800 /gi=400428 /ug=Rn.10375 /len=3810	Sorbitol dehydrogenase (EC 1.1.1.14) (L-iditol 2-dehydrogenase)

Table 2.

X74834	10020	P18916	10021	NM_005199	10022	NP_005190	10023	80	Cholinergic receptor, nicotinic, gamma polypeptide		X74834cds RNACRG1 R.norvegicus mRNA for acetylcholine receptor gamma-subunit	Integral membrane protein.	"Acetylcholine receptor protein, gamma chain precursor."
X74835	10024	P25110	10025	X55019	10026	Q07001	10027	87.01	Cholinergic receptor, nicotinic, delta polypeptide		X74835cds RNZCRD1 R.norvegicus mRNA for acetylcholine receptor delta-subunit	Integral membrane protein.	"Acetylcholine receptor protein, delta chain precursor."
X74978	10028	NP_064457	10029	XM_039822	10030	XP_039822	10031	74	Prostatic acid phosphatase	NIM_020072	X74978exon RNACPP11 R.norvegicus gene for prostatic acid phosphatase, exon 11		
X75207	10032	P39948	10033	BC000076	10034	P24385	10035	93	Cyclin D1	AA957218	X75207 R.norvegicus CCND1 mRNA for cyclin D1 /cds=(152,1039) /gb=X75207 /gi=473122 /ug=Rn.8471 /len=1454		G1/S-specific cyclin D1.
X75207	10036	P39948	10037	BC000076	10038	P24385	10039	93	Cyclin D1		X75207 R.norvegicus CCND1 mRNA for cyclin D1 /cds=(152,1039) /gb=X75207 /gi=473122 /ug=Rn.8471 /len=1454		G1/S-specific cyclin D1.
X76724	10040	Q64284	10041	AF028749	10042	Q13303	10043	91.06	RCK beta2		X76724 R.norvegicus RCK beta2 mRNA /cds=(592,1695) /gb=X76724 /gi=499327 /ug=Rn.10757 /len=1700	Cytoplasmic.	Voltage-gated potassium channel beta-2 subunit (Kv-2 subunit) (Kv-beta-2) (Neuroimmune protein F5).

Table 2.

X76988	10044	Q11205	10045	X96967	10046	NP_008858	10047	87.89	Gal beta 1,3-GalNAc alpha-2,3-sialyltransferase	X76988cds RNALNACS R.norvegicus mRNA for gal beta 1,3 galNAc alpha 2,3-sialyltransferase	MEMBRANE PROTEIN. MEMBRANE-BOUND FORM IN TRANS CISTERNAE OF GOLGI, SOLUBLE FORM IN BODY FLUIDS."	"CMP-N-acetylneuraminic acid-beta-galactoside-alpha-2,3-sialyltransferase (EC 2.4.99.-) (Beta-galactoside alpha-2,3-sialyltransferase) (Alpha2,3-ST) (GalNAc6S) (Gal-beta-1,3-GalNAc-alpha-2,3-sialyltransferase"
X77237	10048	P53042	10049	BC001970	10050	P53041	10051	90.92	Protein phosphatase 5, catalytic subunit	X77237 R.norvegicus mRNA for protein phosphatase T /cds=(12,151) /gb=X77237 /gi=863079 /ug=Rn.6107 /len=1973	Nuclear.	Serine/threonine protein phosphatase 5 (EC 3.1.3.16) (PP5) (Proteinphosphatase T) (PPT).
X77934	10052	CAA54906	10053	NM_001642	10054	Q08481	10055	79	Amyloid precursor-like protein 2	X77934cds RNWAPLP2 R.norvegicus (Wistar) mRNA for amyloid precursor-like protein 2		
X77934	10056	CAA54906	10057	NM_001642	10058	Q08481	10059	79	Amyloid precursor-like protein 2	X77934cds RNWAPLP2 R.norvegicus (Wistar) mRNA for amyloid precursor-like protein 2		
X78593	10060	P35571	10061	AK022596	10062	AAB60403	10063	92.07	Glycerol-3-phosphate dehydratase	X78593 R.norvegicus mRNA for glycerol-3-phosphate dehydrogenase /cds=(91,2274) /gb=X78593 /gi=603582 /ug=Rn.10167 /len=2400	Mitochondrial	"Glycerol-3-phosphate dehydrogenase, mitochondrial precursor(EC 1.1.99.5) (GPD-M) (GPDH-M)." .

Table 2.

X78593	10064	P35571	10065	AK022596	10066	AAB604 03	10067	92.07	Glycerol-3- phosphate dehydrate dehydrogenas e	U83880	X78593 R.norvegicus mRNA for glycerol-3- phosphate dehydrogenase /cds=(91,2274) /gb=X78593 /gi=603582 /ug=Rn.10167 /len=2400	Mitochondrial	"Glycerol-3- phosphate dehydrogenase, mitochondrial precursor(EC 1.1.99.5) (GPD- M) (GPDH-M)."
X78593	10068	P35571	10069	AK022596	10070	AAB604 03	10071	92.07	Glycerol-3- phosphate dehydrate dehydrogenas e	U83880	X78593 R.norvegicus mRNA for glycerol-3- phosphate dehydrogenase /cds=(91,2274) /gb=X78593 /gi=603582 /ug=Rn.10167 /len=2400	Mitochondrial	"Glycerol-3- phosphate dehydrogenase, mitochondrial precursor(EC 1.1.99.5) (GPD- M) (GPDH-M)."
X78593	10072	P35571	10073	AK022596	10074	AAB604 03	10075	92.07	Glycerol-3- phosphate dehydrate dehydrogenas e	U83880	X78593 R.norvegicus mRNA for glycerol-3- phosphate dehydrogenase /cds=(91,2274) /gb=X78593 /gi=603582 /ug=Rn.10167 /len=2400	Mitochondrial	"Glycerol-3- phosphate dehydrogenase, mitochondrial precursor(EC 1.1.99.5) (GPD- M) (GPDH-M)."
X78603	10076	Q63055	10077	X91504	10078	Q13795	10079	97	R.norvegicus (Sprague Dawley) ARP1 mRNA for ARF-related protein	X78603 R.norvegicus (Sprague Dawley) ARP1 mRNA for ARF-related protein /cds=(137,742) /gb=X78603 /gi=1103618 /ug=Rn.10973 /len=825		ARF-related protein (ARP).	
X78606	10080	P51158	10081	BC018067	10082	P51157	10083	93.66	R.norvegicus (Sprague Dawley) rab28 mRNA for ras- homologous GTPase	X78606 R.norvegicus (Sprague Dawley) rab28 mRNA for ras-homologous GTPase /cds=(18,683) /gb=X78606 /gi=1154900 /ug=Rn.4023 /len=1472		Ras-related protein Rab-28 (RAB-26).	



Table 2.

X78949	10084	P54001	10085	M24487	10086	P13674	10087	91.41	Prolyl 4-hydroxylase alpha subunit	X78949 R.norvegicus mRNA for prolyl 4-hydroxylase alpha subunit /cds=(69,1673) /gb=X78949 /gi=474939 /ug=Rn.8531 /len=1838	Endoplasmic reticulum lumen.	"Prolyl 4-hydroxylase alpha-1 subunit precursor (EC 1.14.11.2) (4-Phalpa-1) (Procollagen-proline, 2-oxoglutarate-4-dioxygenase alpha-1 subunit)."
X78949	10088	P54001	10089	M24487	10090	P13674	10091	91.41	Prolyl 4-hydroxylase alpha subunit	X78949 R.norvegicus mRNA for prolyl 4-hydroxylase alpha subunit /cds=(69,1673) /gb=X78949 /gi=474939 /ug=Rn.8531 /len=1838	Endoplasmic reticulum lumen.	"Prolyl 4-hydroxylase alpha-1 subunit precursor (EC 1.14.11.2) (4-Phalpa-1) (Procollagen-proline, 2-oxoglutarate-4-dioxygenase alpha-1 subunit)."

Table 2.

X79321	10092	P19332	10093	AF456477	10094	NP_058518	10095	93.87	Tau microtubule-associated protein	X79321 R.norvegicus (Wistar) mRNA for tau microtubule-associated protein /cds=(231,1355) /gb=X79321 /gi=517393 /ug=Rn.2455 /len=5208	"MOSTLY FOUND IN THE AXONS OF NEURONS, IN THE CYTOSOL AND IN ASSOCIATION WITH PLASMA MEMBRANE COMPONENTS."	Microtubule-associated protein tau (Neurofibrillary tangle protein)(Paired helical filament-tau) (PHF-tau).
X80130	10096	CAA56429	10097	NM_005159	10098	P04270	10098	100	Alpha-actin cardiac protein	X80130cds RRALPHAAC R.rattus mRNA for alpha-actin cardiac protein		
X80130	10100	CAA56429	10101	NM_005159	10102	P04270	10103	100	Alpha-actin cardiac protein	X80130cds RRALPHAAC R.rattus mRNA for alpha-actin cardiac protein		
X80130	10104	CAA56429	10105	NM_005159	10106	P04270	10107	100	Alpha-actin cardiac protein	X80130cds RRALPHAAC R.rattus mRNA for alpha-actin cardiac protein		
X80130	10108	CAA56429	10109	NM_005159	10110	P04270	10111	100	Alpha-actin cardiac protein	X80130cds RRALPHAAC R.rattus mRNA for alpha-actin cardiac protein		
X80395	10112	CAA56804	10113	NM_003055	10114	NP_003046	10115	87	IVAT gene	X80395cds RRRVAT R.rattus r/VAT gene		
X82021	10116	P50503	10117	U17714	10118	P50502	10119	89.77	Suppression of tumorigenicity 13 (colon carcinoma) Hsp70-Interacting protein	X82021cds RNHSRP R.norvegicus mRNA for heat shock related protein	Cytoplasmic.	Hsc70-Interacting protein (Hsp) (Putative tumor suppressor ST13).

Table 2.

X82669	10120	P15978	10121	L36318	10122	P30474	10123	75	RT1 class Ib gene (histocompatibility antigen)	X82669 complete Seq R. norvegicus RT1.Au gene /cds=UNKNOWN /gb=X82669 /gi=2809331 /ug=Rn.3577 /len=3949	"Class I histocompatibility antigen, Non-RT1.A alpha-1 chain precursor."
X82669	10124	P15978	10125	L36318	10126	P30474	10127	75	RT1 class Ib gene (histocompatibility antigen)	X82669 complete Seq R. norvegicus RT1.Au gene /cds=UNKNOWN /gb=X82669 /gi=2809331 /ug=Rn.3577 /len=3949	"Class I histocompatibility antigen, Non-RT1.A alpha-1 chain precursor."
X83537	10128	Q10739	10129	X83535	10130	P50281	10131	91	MT-MMP	X83537 R. norvegicus mRNA for membrane-type matrix metalloproteinase /cds=(472,1920) /gb=X83537 /gi=805012 /ug=Rn.10371 /len=2383	Matrix metalloproteinase-14 precursor (EC 3.4.24.-) (MMP-14) (Membrane-type matrix metalloproteinase 1) (MT-MMP 1) (MTMMP1) (Membrane-type-1 matrix metalloproteinase) (MT1-MMP) (MT1MMP) (MT-MMP).

Table 2.

X83579	10132	P51962	10133	BC000834	10134	P50613	10135	89.05	R.norvegicus mRNA for Cdk- activating kinase	X83579 R.norvegicus mRNA for Cdk- activating kinase /cds=(0,940) /gb=X83579 /gi=619508 /ug=Rn.10331 /len=989	Nuclear.	Cell division protein kinase 7 (EC 2.7.1.-) (CDK-activating kinase)(CAK) (TFIIH basal transcription factor complex kinase subunit) (39protein kinase) (P39 Mo15) (Fragment).
X83867	10138	Q64678	10137	U03688	10138	Q16678	10139	84.64	cytochrome P450	X83867cds CYP1B1 R.norvegicus CYP1B1 mRNA for cytochrome P450	Membrane- bound. Endoplasmic reticulum.	Cytochrome P450 1B1 (EC 1.14.14.1) (CYP1B1) (P450RAP).
X84210	10140	P09414	10141	XM_046826		AAC15752	10142	75	Nuclear Factor 1A	X84210completeSeq R.norvegicus mRNA for transcription factor NF1 (L4) /cds=UNKNOWN /gb=X84210 /gi=1488642 /ug=Rn.10550 /len=3276	Nuclear.	Nuclear factor 1 A-type (Nuclear factor 1/A) (NF1- A) (NFI-A) (NF- 1A)(CCAAT-box binding transcription factor) (CTF) (TGGCA- bindingprotein).

Table 2.

X84210	10143	P09414	10144	XM_046826	AAC15752	10145	75	Nuclear Factor 1A	X84210completeSeq R.norvegicus mRNA for transcription factor NF1 (L4) /cds=UNKNOWN /gb=X84210 /gi=1488642 /ug=Rn.10550 /len=3278	Nuclear.	Nuclear factor 1 A-type (Nuclear factor 1A) (NF1-A) (NF1-A) (NF1-A) (CCAAT-box binding transcription factor) (CTF) (TGGCA-binding protein).
X87157	10146	P42676	10147	NIM_020726	Q9BYT8	10149	89	neurotensin-degrading neutral metalloendopeptidase; neurolysin	X87157 R.norvegicus mRNA for neurotensin endopeptidase /cds=(143,2257) /gb=X87157 /gi=887086 /ug=Rn.11029 /len=2448	MITOCHONDRIAL INTERMEMBRANE SPACE AND ALSO CYTOPLASMIC.	"Neurolysin, mitochondrial precursor (EC 3.4.24.16) (Neurotensin endopeptidase) (Mitochondrial oligopeptidase M) (Microsomal endopeptidase) (MEP)."
X87885	10150	P97834	10151	NIM_004127	Q13098	10153	92	Mammalian fusca protein	X87885 R.norvegicus mRNA for mammalian fusca protein /cds=(0,1415) /gb=X87885 /gi=871527 /ug=Rn.18873 /len=1416	Nuclear and cytoplasmic.	COP9 signalosome complex subunit 1 (G protein pathway suppressor 1)(GPS1 protein) (MFH protein).
X88697	10154	CAA61844	10155	AF399829	AAK95114	10157	72	TPCR07 protein (olfactory receptor)	X88697cds RNTPCR07P R.norvegicus mRNA for TPCR07 protein		

Table 2.

X89698	10158	CAA61 845	10159	AF399579	10160	IAAK950 64	10161	69	TPCR09 protein (putative olfactory receptor)	X89698cds RNTPCR09P R.norvegicus mRNA for TPCR09 protein			
X89703	10162	CAA61 850	10163	X89675	10164	CAA618 22	10165	46	TPCR19 protein	X89703cds RNTPCR19P R.norvegicus mRNA for TPCR19 protein			
X91810	10166	P52631	10167	L29277	10168	P40763	10169	92.03	Stat3 protein	X91810 R.norvegicus mRNA for Stat3 protein /cds=(0,2312) /gb=X91810 /gi=1107848 /ug=Rn.10247 /len=2924	Nuclear, translocated into the nucleus in response to phosphorylat on.	Signal transducer and activator of transcription 3.	
X92070	10170	P51579	10171	BE876713	10172	NP_005 437	10173	86.22	P2X6	X92070 R.norvegicus mRNA for P2X6 protein /cds=(13,1152) /gb=X92070 /gi=1279660 /ug=Rn.10258 /len=2167	Integral membrane protein.	P2X purinoceptor 6 (ATP receptor) (P2X6) (Purinergic receptor)(P2Xm) (Purinergic receptor P2X- like 1).	
X92097	10174	Q63524	10175	BG255482	10176	Q15363	10177	93.82	Coated vesicle membrane protein	X92097 R.norvegicus mRNA for transmembrane protein mp21.4 /cds=(23,628) /gb=X92097 /gi=1213220 /ug=Rn.22775 /len=716	TYPE I MEMBRANE PROTEIN. GOLGI- DERIVED COATOMER- COATED VESICLES.	Cop-coated vesicle membrane protein p24 precursor (p24A) (RNP21.4).	
X92097	10178	Q63524	10178	BG255482	10180	Q15363	10181	93.82	Coated vesicle membrane protein	X92097 R.norvegicus mRNA for transmembrane protein mp21.4 /cds=(23,628) /gb=X92097 /gi=1213220 /ug=Rn.22775 /len=716	TYPE I MEMBRANE PROTEIN. GOLGI- DERIVED COATOMER- COATED VESICLES.	Cop-coated vesicle membrane protein p24 precursor (p24A) (RNP21.4).	

Table 2.

X92184	10182	CAA63095	10183	IM77235	10184	Q14524	10185	92.45	Voltage-gated sodium channel (SNS)	X92184 R.norvegicus mRNA for voltage-gated sodium channel (SNS) /cds=(203,6076) /gb=X92184 /gi=1209466 /ug=Rn.10246 /len=6509		
X94246	10186	P51974	10187	AK023855	10188	A54429		94.38	Pax-8 protein	X94246 R.norvegicus mRNA for Pax-8 protein /cds=(45,1421) /gb=X94246 /gi=1122895 /ug=Rn.10392 /len=1693	Nuclear.	Paired box protein Pax-8.
X96850	10189	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			R.norvegicus mRNA for novel gene expressed in circadian manner, clone SCN8	X96850mRNA RNSCN8 R.norvegicus mRNA for novel gene expressed in circadian manner, clone SCN8		
X96394	10190	CAA65258	10191	NM_01900	10192	P33527	10193	84.68	multidrug resistance protein	X96394 R.norvegicus mRNA for multidrug resistance protein /cds=(0,325) /gb=X96394 /gi=1282883 /ug=Rn.10495 /len=813		
X96426	10194	P70531	10195	NM_01302	10196	O00418	10197	86	Skeletal muscle elongation factor-2 kinase	X96426 R.norvegicus mRNA for skeletal muscle elongation factor-2 kinase /cds=(290,2464) /gb=X96426 /gi=1495778 /ug=Rn.10958 /len=4782		Elongation factor 2 kinase (EC 2.7.1.-) (eEF-2 kinase) (eEF-2K) (Calcium/calmodulin-dependent eukaryotic elongation factor-2 kinase).
X96437	10198	No Rat Protein Found.		X96438	10199	CAA65304	10200		R.norvegicus PRG1 gene (contains a transcription factor domain)	X96437mRNA RNPRG1 R.norvegicus PRG1 gene		

### Table 2.

X98437	10201	No Rat Protein Found.	X98438	10202	CAA65304	10203		R.norvegicus PRG1 gene (contains a transcription factor domain)	X97375	X98437mRNA RNPRG1 R.norvegicus PRG1 gene	
X98437	10204	No Rat Protein Found.	X98438	10205	CAA65304	10206		R.norvegicus PRG1 gene (contains a transcription factor domain)		X98437mRNA RNPRG1 R.norvegicus PRG1 gene	
X98437	10207	No Rat Protein Found.	X98438	10208	CAA65304	10209		R.norvegicus PRG1 gene (contains a transcription factor domain)		X98437mRNA RNPRG1 R.norvegicus PRG1 gene	
X97374	10210	CAA66043	10211	NIM_008228	Q13519	10213	66	Prepronociceptin	X97375	X97374exon RNPPNEX2 R.norvegicus gene encoding prepronociceptin, exon 2	
X98399	10214	CAA67049	10215	Y19039	Q13338	10217	72	Urea transporter		X98399cds RNUT11 R.norvegicus mRNA for urea transporter	
X98564	10218	CAA67174	10219	NM_014379	NP_055194	10221	88.7	Neuronal potassium channel alpha subunit		X98564cds RNNPCA R.norvegicus mRNA for neuronal potassium channel alpha subunit	
X98564	10222	CAA67174	10223	NM_014379	NP_055194	10225	88.7	Neuronal potassium channel alpha subunit		X98564cds RNNPCA R.norvegicus mRNA for neuronal potassium channel alpha subunit	
X99267	10226	O88777	10227	L43964	P49810	10229	89.71	Presenilin-2		X99267 RNX99267 R.norvegicus mRNA for presenilin-2	INTEGRAL MEMBRANE PROTEIN. GOLGI AND ENDOPLASMIC RETICULUM



Table 2.

X99267	10230	O88777	10231	L43984	10232	P49810	10233	89.71	Presenilin-2	X99267 RNX99267 R.norvegicus mRNA for presenilin-2	INTEGRAL MEMBRANE PROTEIN. GOLGI AND ENDOPLAS MIC RETICULUM	Presenilin 2 (PS-2).
X99267	10234	O88777	10235	L43984	10236	P49810	10237	89.71	Presenilin-2	X99267 RNX99267 R.norvegicus mRNA for presenilin-2	INTEGRAL MEMBRANE PROTEIN. GOLGI AND ENDOPLAS MIC RETICULUM	Presenilin 2 (PS-2).
X99267	10238	O88777	10239	L43984	10240	P49810	10241	89.71	Presenilin-2	X99267 RNX99267 R.norvegicus mRNA for presenilin-2	INTEGRAL MEMBRANE PROTEIN. GOLGI AND ENDOPLAS MIC RETICULUM	Presenilin 2 (PS-2).
X99337	10242	P26453	10243	AF035287	10244	T17219		97.25	Stromal cell derived factor receptor 1	X99337cds RNGP55 R.norvegicus mRNA for glycoprotein 55		
X99337	10245	CAA67711	10246	AF035287	10247	NP_036560	10248	97.25	glycoprotein 55	X99337cds RNGP55 R.norvegicus mRNA for glycoprotein 55		
X99338	10249	CAA67712	10250	AF035287	10251	NP_036560	10252	97.25	Glycoprotein 65	X99338cds RNGP56 R.norvegicus mRNA for glycoprotein 65		
X99338	10253	CAA67712	10254	AF035287	10255	NP_036560	10256	97.25	Glycoprotein 65	X99338cds RNGP56 R.norvegicus mRNA for glycoprotein 65		
Y00311	10257	P08635	10258	AK001968	10259	XP_028540	10260	80.95	Thioesterase II	Y00311 Rat mRNA for thioesterase II (medium-chain S-acyl fatty acid synthetase thioester hydrolase) /cds=(51,842) /gb=Y00311 /gi=57334 /ug=Rn.9874 /len=1271	"S-acyl fatty acid synthase thioesterase, medium chain (EC 3.1.2.14)(Thioesterase II)."	

Table 2.

Y07704	10261	CAA68 971	10262	BC017969	10263	XP_039 079	10264	85.37	Rattus norvegicus mRNA Best5 protein	Y07704 Rattus norvegicus BEST5 mRNA for hypothetical protein /cds=(5,1087) /gb=Y07704 /gi=3135886 /ug=Rn.14882 /len=3595			
Y07704	10265	CAA68 971	10266	BC017969	10267	XP_039 079	10268	85.37	Rattus norvegicus mRNA Best5 protein	Y07704 Rattus norvegicus BEST5 mRNA for hypothetical protein /cds=(5,1087) /gb=Y07704 /gi=3135886 /ug=Rn.14882 /len=3595			
Y07704	10269	CAA68 971	10270	BC017969	10271	XP_039 079	10272	85.37	Rattus norvegicus mRNA Best5 protein	Y07704 Rattus norvegicus BEST5 mRNA for hypothetical protein /cds=(5,1087) /gb=Y07704 /gi=3135886 /ug=Rn.14882 /len=3595			
Y07704	10273	CAA68 971	10274	BC017969	10275	XP_039 079	10276	85.37	Rattus norvegicus mRNA Best5 protein	Y07704 Rattus norvegicus BEST5 mRNA for hypothetical protein /cds=(5,1087) /gb=Y07704 /gi=3135886 /ug=Rn.14882 /len=3595			
Y09333	10277	O55171	10278	L40401	10279	P49753	10280	71	R.norvegicus mRNA for mitochondrial very-long- chain acyl- CoA thioesterase	Y09333 R.norvegicus mRNA for mitochondrial very-long-chain acyl-CoA thioesterase /cds=(100,1461) /gb=Y09333 /gi=2832738 /ug=Rn.11326 /len=1711	Mitochondrial matrix.	"Acyl coenzyme A thioester hydrolase, mitochondrial precursor(EC 3.1.2.2) (Very- long-chain acyl- CoA thioesterase) (MTE-I)."	
Y09333	10281	O55171	10282	L40401	10283	P49753	10284	71	R.norvegicus mRNA for mitochondrial very-long- chain acyl- CoA thioesterase	Y09333 R.norvegicus mRNA for mitochondrial very-long-chain acyl-CoA thioesterase /cds=(100,1461) /gb=Y09333 /gi=2832738 /ug=Rn.11326 /len=1711	Mitochondrial matrix.	"Acyl coenzyme A thioester hydrolase, mitochondrial precursor(EC 3.1.2.2) (Very- long-chain acyl- CoA thioesterase) (MTE-I)."	

Table 2.

Y09507	10285	CAA70701	10286	AB073325	10287	Q16665	10288	96.02	hypoxia-inducible factor 1	Y09507 R.norvegicus mRNA for hypoxia-inducible factor 1 /cds=(123,2600) /gb=Y09507 /gi=2924301 /ug=Rn.10852 /len=2711	Integral membrane protein.	C-C chemokine receptor type 5 (C-C CKR-5) (CC-CKR-5) (CCR-5) (MIP-1alpha receptor).
Y12009	10289	O08556	10290	U03882	10291	P41597	10292	87.18	chemokine co-receptor CCR5	Y12009 R.norvegicus mRNA for chemokine co-receptor CCR5 /cds=(83,1147) /gb=Y12009 /gi=1911138 /ug=Rn.10736 /len=1428	Integral membrane protein.	C-C chemokine receptor type 5 (C-C CKR-5) (CC-CKR-5) (CCR-5) (MIP-1alpha receptor).
Y12009	10293	O08556	10294	U03882	10295	P41597	10296	87.18	R.norvegicus mRNA for chemokine co-receptor CCR5	Y12009 R.norvegicus mRNA for chemokine co-receptor CCR5 /cds=(83,1147) /gb=Y12009 /gi=1911138 /ug=Rn.10736 /len=1428	Integral membrane protein.	C-C chemokine receptor type 5 (C-C CKR-5) (CC-CKR-5) (CCR-5) (MIP-1alpha receptor).
Y12517	10297	P04166	10298	AB009282	10299	O43169	10300	87.68	mitochondrial isoform of cytochrome b5	Y12517cds RNOMB5MITT R.norvegicus mRNA for mitochondrial isoform of cytochrome b5	Mitochondrial outer membrane.	Cytochrome b5 outer mitochondrial membrane isoform precursor.
Y12635	10301	P50517	10302	BC003100	10303	P21281	10304	99	vacuolar adenosine triphosphatase	Y12635 R.norvegicus mRNA for vacuolar adenosine triphosphatase subunit B /cds=(14,1549) /gb=Y12635 /gi=2058353 /ug=Rn.13436 /len=1614	ENDOMEMBRANE.	<sup>3</sup> H vacuolar ATP synthase subunit B, brain isoform (EC 3.6.3.14) (V-ATPaseB2 subunit) (Vacuolar proton pump B isoform 2) (Endomembrane proton pump 58 kDa subunit). "

Table 2.

Y13275	103275	CAA73 724	10306	BC005246	10307	P19075	10308	86.27	D6.1A protein
Y13338	103309	CAA73 780	10310	NM_0013 44	10311	P48666	10312	88	DAD-1 gene
Y13336	10313	CAA73 780	10314	NM_0013 44	10315	P48666	10316	88	DAD-1 gene
Y13381	10317	O08838	10318	U07616	10319	P49418	10320	91.5	Amphiphysin
Y13413	10321	O35827	10322	AF224708	10323	O95704	10324	90.48	Rattus norvegicus mRNA for Fe65L2 protein
Y13413	10325	O35827	10326	AF224708	10327	O95704	10328	90.48	Rattus norvegicus mRNA for Fe65L2 protein
Y13590	10329	CAA73 918	10330	AW99580 4	10331	XP_051 211	10332	87.6	calpastatin
Y13591	10333	CAA73 919	10334	AW99580 4	10335	XP_051 211	10336	87.6	calpastatin
<p>Y13275 Rattus norvegicus mRNA for D6.1A protein /cds=(229,836) /gb=Y13275 /gl=2765305 /ug=Rn.6087 /len=1164</p> <p>Y13338 Rattus norvegicus DAD-1 gene</p> <p>Y13336 Rattus norvegicus DAD-1 gene</p> <p>Y13381 Rattus norvegicus mRNA for amphiphysin, amph1</p> <p>Y13413 Rattus norvegicus mRNA for Fe65L2 protein</p> <p>Y13413 Rattus norvegicus mRNA for Fe65L2 protein</p> <p>Y13590 Rattus norvegicus mRNA for calpastatin, clone RNCAS110 /cds=(17,268) /gb=Y13590 /gl=2765343 /ug=Rn.10882 /len=328</p> <p>Y13591 Rattus norvegicus mRNA for calpastatin, clone RNCAS110 /cds=(17,547) /gb=Y13591 /gl=2765345 /ug=Rn.10882 /len=608</p>									<p>ASSOCIATED WITH THE CYTOSOLIC SURFACE OF SYNAPTIC VESICLES.</p> <p>Amphiphysin.</p> <p>Amyloid beta A4 precursor protein-binding family B member 3 (Fe65-like protein 2).</p> <p>Amyloid beta A4 precursor protein-binding family B member 3 (Fe65-like protein 2).</p>

Table 2.

Y15054	10337	O35828	10338	XM_017983	XP_017983	79	70 kD tumor-specific antigen	Y15054 Rattus norvegicus mRNA for 70 kDa tumor specific antigen, partial /cds=(0,1332) /gb=Y15054 /gi=2505956 /ug=Rn.13808 /len=1950	70 kDa WD-repeat tumor rejection antigen (Fragment).
Y15068	10339	g2511703	10340	M86752	P31948	97	Rattus norvegicus mRNA for Hsp70/Hsp90 organizing protein	Y15068 RNRNAHOP Rattus norvegicus mRNA for Hsp70/Hsp90 organizing protein	
Y15748	10343	O55173	10344	AK056253	NP_002604	93.79	3-phosphoinositide dependent protein kinase-1	Y15748 Rattus norvegicus mRNA for PkB kinase /cds=(58,1737) /gb=Y15748 /gi=2665355 /ug=Rn.10905 /len=1879	Cytoplasmic and membrane-associated after cell stimulation leading to its translocation. Tyrosine phosphorylation seems to occur only at the plasma membrane. 3-phosphoinositide dependent protein kinase-1 (EC 2.7.1.37) (Protein kinase B) (PKB) kinase).

Table 2.

Y15748	10347	O55173	10348	AK056253	10349	NP_002604	10350	93.79	3-phosphoinositide dependent protein kinase-1	Y15748 Rattus norvegicus mRNA for PKB Kinase /cds=(58,1737) /gb=Y15748 /gi=2665355 /ug=Rn.10905 /len=1879	Cytoplasmic and membrane-associated after cell stimulation leading to its translocation. Tyrosine phosphorylation seems to occur only at the plasma membrane.	3-phosphoinositide dependent protein kinase-1 (EC 2.7.1.37) (Protein kinase B kinase) (PKB kinase).
Y16188	10351	CAA76114	10352	Y16187	10353	CAA76113	10354		XCE protein	Y16188 HSY16188 Rattus norvegicus mRNA for XCE protein, partial		
Y17048	10355	O88751	10356	X94700	10357	Q9NZU7	10358	92.24	Rattus norvegicus mRNA for caldendrin	Y17048 RNCALDE Rattus norvegicus mRNA for caldendrin	OCCURS IN BOTH THE CYTOPLASMIC AND CYTOSKELETAL COMPARTMENT OF CELL SOMATA AND DENDRITES.	Calcium-binding protein CaBP1 (Caldendrin).

Table 2.

Y17048	10359	O88751	10360	X94700	10361	Q9NZU7	10362	92.24	Rattus norvegicus mRNA for caldendrin	Y17048 RNCALDE Rattus norvegicus mRNA for caldendrin	OCCURS IN BOTH THE CYTOPLAS MIC AND CYTOSKELETAL COMPARTMENT OF CELL SOMATA AND DENDRITES.	Calcium-binding protein CaBP1 (Caldendrin).
Y17048	10363	O88751	10364	X94700	10365	Q9NZU7	10366	92.24	Rattus norvegicus mRNA for caldendrin	Y17048 RNCALDE Rattus norvegicus mRNA for caldendrin	OCCURS IN BOTH THE CYTOPLAS MIC AND CYTOSKELETAL COMPARTMENT OF CELL SOMATA AND DENDRITES.	Calcium-binding protein CaBP1 (Caldendrin).
Y17048	10367	O88751	10368	X94700	10369	Q9NZU7	10370	92.24	Rattus norvegicus mRNA for caldendrin	Y17048 RNCALDE Rattus norvegicus mRNA for caldendrin	OCCURS IN BOTH THE CYTOPLAS MIC AND CYTOSKELETAL COMPARTMENT OF CELL SOMATA AND DENDRITES.	Calcium-binding protein CaBP1 (Caldendrin).
Y17606	10371	CAA76804	10372	AF043473	10373	XP_009523	10374	90.84	Potassium channel, alpha subunit (Kv9.1)	Y17606 RNO17606 Rattus norvegicus mRNA for potassium channel, alpha subunit (Kv9.1)	OCCURS IN BOTH THE CYTOPLAS MIC AND CYTOSKELETAL COMPARTMENT OF CELL SOMATA AND DENDRITES.	Calcium-binding protein CaBP1 (Caldendrin).

Table 2.

Y17607	10375	CAA76 805	10376	BC004987	10377	NP_002 243	10378	87.59	Rattus norvegicus mRNA for potassium channel, alpha subunit (Kv9.3)	Y17607 RNO17607 Rattus norvegicus mRNA for potassium channel, alpha subunit (Kv9.3)		
Y17607	10379	CAA76 805	10380	BC004987	10381	NP_002 243	10382	87.59	Rattus norvegicus mRNA for potassium channel, alpha subunit (Kv9.3)	Y17607 RNO17607 Rattus norvegicus mRNA for potassium channel, alpha subunit (Kv9.3)		
Z11581	10383	P42264	10384	AJ249209	10385	Q16478	10386	92.52	kainate receptor	Z11581 R.norvegicus mRNA for kainate receptor subunit (ka2) /cds=(202,3141) /gb=Z11581 /gi=56509 /ug=Rn.10053 /len=3702	Integral membrane protein.	"Glutamate receptor, ionotropic kainate 3 precursor (Glutamate receptor7) (GLUR-7) (GluR7)."



Table 2.

Z11995	10387	Q99068	10388	AK027025	10389	P30533	10390	86	R.norvegicus mRNA encoding 45kDa protein which binds to heyman nephritis antigen gp330	Z11995cds RN45KDB R.norvegicus mRNA encoding 45kDa protein which binds to heyman nephritis antigen gp330	INTRACELL ULAR AND ASSOCIATE D WITH CELL SURFACE RECEPTOR S.	Alpha-2- macroglobulin receptor- associated protein precursor(Alpha- 2-MRAP) (Low density lipoprotein receptor-related protein- associated protein 1) (RAP) (GP330-binding 45 kDa protein) (Fragment).
Z11995	10391	Q98068	10392	AK027025	10393	P30533	10394	86	R.norvegicus mRNA encoding 45kDa protein which binds to heyman nephritis antigen gp330	Z11995cds RN45KDB R.norvegicus mRNA encoding 45kDa protein which binds to heyman nephritis antigen gp330	INTRACELL ULAR AND ASSOCIATE D WITH CELL SURFACE RECEPTOR S.	Alpha-2- macroglobulin receptor- associated protein precursor(Alpha- 2-MRAP) (Low density lipoprotein receptor-related protein- associated protein 1) (RAP) (GP330-binding 45 kDa protein) (Fragment).

Table 2.

Z11995	10395	Q89068	10396	AK027025	10397	P30533	10398	86	ALPHA-2-MACROGLOBULIN RECEPTOR-ASSOCIATED PROTEIN PRECURSOR	AA892810	Z11995cds RN45KDB R.norvegicus mRNA encoding 45kDa protein which binds to heyman nephritis antigen gp330	INTRACELLULAR AND ASSOCIATED WITH CELL SURFACE RECEPTORS.	Alpha-2-macroglobulin receptor-associated protein precursor(Alpha-2-MRAP) (Low density lipoprotein receptor-related protein-1) (RAP) (GP330-binding 45 kDa protein) (Fragment).
Z11995	10389	Q89068	10400	AK027025	10401	P30533	10402	86	R.norvegicus mRNA encoding 45kDa protein which binds to heyman nephritis antigen gp330		Z11995cds RN45KDB R.norvegicus mRNA encoding 45kDa protein which binds to heyman nephritis antigen gp330	INTRACELLULAR AND ASSOCIATED WITH CELL SURFACE RECEPTORS.	Alpha-2-macroglobulin receptor-associated protein precursor(Alpha-2-MRAP) (Low density lipoprotein receptor-related protein-1) (RAP) (GP330-binding 45 kDa protein) (Fragment).

Table 2.

Z11995	10403	Q99068	10404	AK027025	10405	P30533	10406	86	R.norvegicus mRNA encoding 45kDa protein which binds to heyman nephritis antigen gp330	Z11995cds RN45KOB R.norvegicus mRNA encoding 45kDa protein which binds to heyman nephritis antigen gp330	INTRACELL ULAR AND ASSOCIATE D WITH CELL SURFACE RECEPTOR S.	Alpha-2- macroglobulin receptor- associated protein precursor(Alpha- 2-MRAP) (Low density lipoprotein receptor-related protein- associated protein 1) (RAP) (GP330-binding 45 kDa protein) (Fragment).
Z11995	10407	Q99068	10408	AK027025	10409	P30533	10410	86	ALPHA-2- MACROGLOB ULIN RECEPTOR- ASSOCIATED PROTEIN PRECURSOR	Z11995cds RN45KOB R.norvegicus mRNA encoding 45kDa protein which binds to heyman nephritis antigen gp330	INTRACELL ULAR AND ASSOCIATE D WITH CELL SURFACE RECEPTOR S.	Alpha-2- macroglobulin receptor- associated protein precursor(Alpha- 2-MRAP) (Low density lipoprotein receptor-related protein- associated protein 1) (RAP) (GP330-binding 45 kDa protein) (Fragment).
Z12158	10411	CAA78 146	10412	NM_0002 84	10413	P08559	10414	95	Pyruvate dehydrogenas e E1 alpha form 1 subunit	Z12158cds RRPDHYE1A R. rattus pyruvate dehydrogenase E1 alpha form 1 subunit		

Table 2.

Z12158	10415	CAA78 148	10416	NM_0002 84	10417	P08559	10418	95	Pyruvate dehydrogenas e E1 alpha form 1 subunit	Z12158cds RRPDPHYE1A R.rattus pyruvate dehydrogenase E1 alpha form 1 subunit
Z18877	10419	Q05961	10420	D00068	10421	Q86J61	10422	65	R.norvegicus mRNA for 2'5' oligoadenylate synthetase	Z18877 R.norvegicus mRNA for 2 5 oligoadenylate synthetase /cds=(89,1145) /gb=Z18877 /gi=56789 /ug=Rn.10383 /len=1421
Z19552	10423	P41516	10424	AK024080	10425	P11388	10426	91.3	Topoisomeras e (DNA) II alpha	Z19552cds RNDNATP1I R.norvegicus mRNA for DNA topoisomerase II
Z29072	10427	CAA82 313	10428	L21898	10429	Q02817	10430	63	Mucin	Z29072cds RNMLUCINR R.norvegicus (Sprague Dawley) mRNA for mucin
Z35654	10431	Q63406	10432	AB002360	10433	O15068	10434	88	R.norvegicus mRNA for Ost oncogene	Z35654 R.norvegicus mRNA for Ost oncogene /cds=(591,3208) /gb=Z35654 /gi=607179 /ug=Rn.10386 /len=4354

2'-5'-

oligoadenylate

synthetase 1

(EC 2.7.7.-) ((2-

5)oligo(A)synth

etase 1) (2-5A

synthetase 1).

"DNA

topoisomerase

II, alpha

isozyme (EC

5.99.1.3)."

Guanine

nucleotide

exchange factor

DBS (DBL's big

sister)

(MCF2transform

ing sequence-

like protein)

(OST

oncogene)

(Fragment).

Nuclear.

Cytoplasmic.

Table 2.

Z35654	10435	Q63408	10436	AB002360	10437	O15068	10438	88	R.norvegicus mRNA for Ost oncogene	Z35654 R.norvegicus mRNA for Ost oncogene /cds=(591,3209) /gb=Z35654 /gi=607178 /ug=Rn.10386 /len=4354	Cytoplasmic.	Guanine nucleotide exchange factor DBS (DBL's big sister) (MCF2transforming sequence-like protein) (OST oncogene) (Fragment).
Z36276	10439	Q84595	10440	X94612	10441	Q13237	10442	88.68	cGMP dependent protein kinase type II	Z36276 R.norvegicus (Sprague-Dawley) GK II mRNA for cGMP dependent protein kinase II /cds=(47,2335) /gb=Z36276 /gi=556688 /ug=Rn.10443 /len=2890		cGMP-dependent protein kinase 2 (EC 2.7.1.37) (CGK 2) (CGKII) (Type IIcGMP-dependent protein kinase).
Z36944	10443	P51794	10444	X77197	10445	P51793	10446	98	Putative chloride channel (similar to Mm Clcn4-2)	Z36944cds RNCHCHAMP R.norvegicus mRNA for putative chloride channel	Integral membrane protein.	Chloride channel protein 4 (ClC-4).
Z36980	10447	P80254	10448	NM_001355	10449	P30046	10450	74	D-dopachrome tautomerase.	Z36980 R.norvegicus mRNA for D-dopachrome tautomerase /cds=(76,432) /gb=Z36980 /gi=895881 /ug=Rn.3464 /len=610	Cytoplasmic.	D-dopachrome tautomerase.
Z36980	10451	P80254	10452	NM_001355	10453	P30046	10454	74	D-dopachrome tautomerase.	Z36980 R.norvegicus mRNA for D-dopachrome tautomerase /cds=(76,432) /gb=Z36980 /gi=895881 /ug=Rn.3464 /len=610	Cytoplasmic.	D-dopachrome tautomerase.
Z46814	10455	CAA86587	10456	XM_004987		XP_004987		95	caveolin	Z46814cds RNCAVLN R.norvegicus mRNA for caveolin		
Z46882	10457	CAA86981	10458	NM_001386	10459	Q16555	10460	96	TOAD-84	Z46882cds RRTOAD84 R.rattus mRNA for TOAD-84		

Table 2.

Z48444	10461	CAA88 359	10462	AK023460	10463	NP_001 101	10464	91.68	disintegrin- metalloprotease		Z48444cds RNDIGMETP R.norvegicus mRNA for disintegrin-metalloprotease			
Z49761	10465	CAA89 831	10466	NM_0061 20	10467	P28067	10468	84.23	RT1.Ma		Z49761 R.norvegicus mRNA for RT1.Ma /cds=(23,805) /gb=Z49761 /gi=1296988 /ug=Rn.11298 /len=1049			
Z50144	10469	NP_058 889	10470	NM_0162 28	10471	NP_057 312	10472	85.54	Kynurenine aminotransferase II	NM_01719 3	Z50144 R.norvegicus mRNA for kynurenine/alpha-aminoadipate aminotransferase /cds=(112,1368) /gb=Z50144 /gi=1050751 /ug=Rn.11133 /len=1807			
Z54212	10473	P54848	10474	NM_0014 23	10475	P54849	10476	66	Epithelial membrane protein 1	NM_01284 3	Z54212 R.norvegicus mRNA for epithelial membrane protein-1 /cds=(114,598) /gb=Z54212 /gi=150558 /ug=Rn.10242 /len=981	Integral membrane protein.	Epithelial membrane protein-1 (EMP- 1) (Tumor- associated membraneprotein).	
Z75029	10477	Q07439	10478	M24743	10479	I59139		96	Heat shock protein 70-1		Z75029 R.norvegicus hep70.2 mRNA for heat shock protein 70 /cds=(0,37) /gb=Z75029 /gi=1483577 /ug=Rn.1950 /len=707			
Z78279	10480	CAB01 633	10481	Y15916	10482	P02452	10483	97.6	Collagen alpha1 type I	U75405	Z78279 R.norvegicus mRNA for collagen alpha1 type I /cds=(0,4361) /gb=Z78279 /gi=2894105 /ug=Rn.2953 /len=5721			
Z78279	10484	CAB01 633	10485	Y15916	10486	P02452	10487	97.6	Collagen alpha1	M27207	Z78279 R.norvegicus mRNA for collagen alpha1 type I /cds=(0,4361) /gb=Z78279 /gi=2894105 /ug=Rn.2953 /len=5721			
Z78279	10488	CAB01 633	10489	Y15916	10490	P02452	10491	97.6	Collagen alpha1 type I		Z78279 R.norvegicus mRNA for collagen alpha1 type I /cds=(0,4361) /gb=Z78279 /gi=2894105 /ug=Rn.2953 /len=5721			
Z83767	10492	P16310	10493	X06562	10494	P10912	10495	89.19	Growth hormone receptor	NM_01709 4	Z83767mRNA RNHR3UTR R.norvegicus mRNA for growth hormone receptor, 3' UTR	Type I membrane protein.	Growth hormone receptor precursor (GH receptor) (Serum bindingprotein).	



Table 2.

AB0101 54	10514	BAA363 62	10515	AF387637	10516	P27448	10517	31	Sk mRNA for serine/threonine kinase with SH3 ligand, expressed in hippocampus	AB010154 Rattus norvegicus PKN mRNA for serin/threonine protein kinase expressed in hippocampus, partial cds		
AB0134 54	10518	P24049	10519	X53777	10520	P18621	10521	99	ASI mRNA for mammalian equivalent of bacterial large ribosomal subunit protein L22	AB013454 Rattus norvegicus mRNA for NapH 2 beta, complete cds	60S ribosomal protein L17 (L23) (Amino acid starvation- induced protein) (ASI).	
AB0137 32	10522	O70199	10523	AJ007702	10524	O60701	10525	89.76	UDP-glucose dehydrogenase e	AB013732 Rattus norvegicus mRNA for UDP- glucose dehydrogenase, complete cds /cds=(110,1591) /gb=AB013732 /gi=3133256 /ug=Rn.3967 /len=2318	UDP-glucose 6- dehydrogenase (EC 1.1.1.22) (UDP-Glc dehydrogenase) (UDP-GlcDH) (UDPGDH).	
NM_02 2505	10526	NP_071 950	10527	S82449	10528	Q8UQ21	10529	86.21	Rhesus blood group	AB015191 Rattus norvegicus mRNA for Rh blood group protein, complete cds		



Table 2.

AB016160	10530	Q9ZOU4	10531	AJ225028	10532	Q8UBS5	10533	97	Gamma-aminobutyric acid (GABA) B receptor, 1	AB016160 Rattus norvegicus mRNA for GABAB receptor 1c, complete cds	INTEGRAL MEMBRANE PROTEIN. MOREOVER COEXPRESSION OF GABA-B-R1 AND GABA-B-R2 APPEARS TO BE A PREREQUISITE FOR MATURATION AND TRANSPORT OF GABA-B-R1 TO THE PLASMA MEMBRANE.	Gamma-aminobutyric acid type B receptor, precursor (GABA-Breceptor 1) (GABA-B-R1) (Gb1).
60												
AF000942	10534	P41138	10535	X66924	10536	Q02535	10537	88.38	Inhibitor of DNA binding 3, dominant negative helix-loop-helix protein	AF000942 Rattus norvegicus Id3a mRNA, complete cds	Nuclear.	DNA-binding protein inhibitor ID-3.
AF004811	10538	P31977	10539	M69066	10540	P28038	10541	91.07	Moesin	AF004811 Rattus norvegicus moesin mRNA, complete cds /cds=(98,1831) /gb=AF004811 /gi=2218138 /ug=Rn.10773 /len=2099		
AF007554	10542	g2253444		X52228	10543	Q16615	10544	87.68	Mucin1	AF007554 Rattus norvegicus mucin 1 (Muc1) mRNA, partial cds /cds=(0,224) /gb=AF007554 /gi=2253443 /ug=Rn.10779 /len=447		

Table 2.

AF0075 83	10545	O35167	10546	NM_0805 39	10547	Q9NP24	10548	90.29	Collagen-like tail subunit (single strand of homotrimer) of asymmetric acetylcholinest- erase	AF007583 <i>Rattus norvegicus</i> acetylcholinesterase-associated collagen (COLQ) mRNA, complete cds /cds=(45,1421) /gb=AF007583 /gi=2564193 /ug=Rn.10841 /len=2731	Acetylcholinest- erase collagenic tail peptide precursor (AChE Qsubunit) (Acetylcholinest- erase- associated collagen).
AF0208 18	10549	AAC24 980	10550	XM_00909 7	10551	XP_009 097	10552	34	Progression elevated gene 3 protein	AF020818 <i>Rattus norvegicus</i> progression elevated gene 3 protein mRNA, complete cds	
AF0265 29	10553	O35414	10554	AJ303455	10555	Q9H169	10556	95.19	Stathmin-like- protein RB3	AF026529 <i>Rattus norvegicus</i> stathmin-like- protein splice variant RB3 mRNA, complete cds /cds=(120,650) /gb=AF026529 /gi=2585992 /ug=Rn.5658 /len=1305	Stathmin 4 (Stathmin-like protein B3) (RB3).
AF0287 84	10557	I56572		J04569	10558	P14136	10559	88	Glial fibrillary acidic protein	AF028784 mRNA#1 <i>Rattus norvegicus</i> glial fibrillary acidic protein alpha (GFAP) gene, alternative spliced form, complete cds; and glial fibrillary acidic protein delta (GFAP) gene, alternative spliced form, partial cds	
AF0292 40	10560	g31500 54		M20022	10561	P29401	10562	62	MHC class Ib RT1.S3 (RT1.S3) (21 on d.s.)	AF029240 <i>Rattus norvegicus</i> MHC class Ib RT1.S3 (RT1.S3) gene, complete cds /cds=(0,1091) /gb=AF029240 /gi=3150053 /ug=Rn.14674 /len=2653	
AF0342 37	10563	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST also named DD6A4 1 mRNA	AF034237 <i>Rattus norvegicus</i> DD6A4-1 mRNA, partial sequence	
AF0348 99	10564	JC5836	10565	L35475	10566	Q15062	10567	44	Olfactory receptor-like protein (SCR D-9)	AF034899 <i>Rattus norvegicus</i> olfactory receptor-like protein (SCR D-9) gene, complete cds /cds=(0,965) /gb=AF034899 /gi=3153224 /ug=Rn.14522 /len=1086	

Table 2.

AF035156	10568	O54939	10569	U05659	10570	P37058	10571	81.94	Testicular 17-beta-hydroxysteroid dehydrogenase 6	AF035156 Rattus norvegicus testicular 17-beta-hydroxysteroid dehydrogenase mRNA, complete cds /cds=(21,941) /gb=AF035156 /gi=2826748 /ug=Rn.10895 /len=1111	Estradiol 17-beta-dehydrogenase 3 (EC 1.1.1.62) (17-beta-HSD 3)(Testicular 17-beta-hydroxysteroid dehydrogenase)
AF039085	10572	O54980	10573	AJ002308	10574	O43760	10575	87	Synaptogyrin 2	AF039085 Rattus norvegicus cellugyrin mRNA, complete cds /cds=(153,857) /gb=AF039085 /gi=2773063 /ug=Rn.8682 /len=1108	Integral membrane protein.
NM_0082	10576	O55004	10577	BI460032	10578	NP_002926	10579	87.13	Ribonuclease 4	AF041066 Rattus norvegicus ribonuclease 4 mRNA, complete cds /cds=(76,519) /gb=AF041066 /gi=2773352 /ug=Rn.22804 /len=546	Secreted. Ribonuclease 4 precursor (EC 3.1.27.-) (RNase 4) (RL3).
AF1217	10580	P02466	10581	D21235	10582	P54725	10583	95.37	Procollagen, type I, alpha 2	AF050214 Rattus norvegicus type I pro-alpha 2 collagen-like mRNA sequence	Collagen alpha 2(I) chain precursor.
AF050659	10584	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Activity and neurotransmitter-induced early gene 7 (ania-7)	AF050659UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 7 (ania-7) mRNA, 3' UTR	
AF050663	10585	No Rat Protein Found.		AC009812	10586	No Human Protein Found.		86	Activity and neurotransmitter-induced early gene 11 (ania-11)	AF050663UTR#1 Rattus norvegicus activity and neurotransmitter-induced early gene 11 (ania-11) mRNA, 3' UTR	

Table 2.

AF053312	10587	P87884	10588	U84197	10589	P78556	10590	85.29	Small Inducible cytokine subfamily A20	AF053312 Rattus norvegicus CC chemokine ST38 precursor, mRNA, complete cds	Secreted.	Small Inducible cytokine A20 precursor (CCL20) (Macrophagein) (Macrophagein) (MIP-3 alpha) (MIP-3-alpha) (Liver and activation-regulated chemokine) (CC chemokine) (LARC) (Beta chemokine) exodus-1) (CCchemok
AF058791	10591	AAC14190	10592	AB014532	10593	P41223	10594	87.13	Maternal G10 transcript	AF058791 Rattus norvegicus G10 protein homolog (edg2) mRNA, complete cds /cds=(184,618) /gb=AF058791 /gi=3064069 /ug=Rn.8172 /len=816		
AF061242	10595	Q9R1B1	10596	A1005112	10597	Q9Y5J6	10598	98.34	Fracture callus 1	AF061242 Rattus norvegicus fracture callus 1 (FxC1) mRNA, complete cds	Mitochondrial inner membrane .	Mitochondrial import inner membrane translocase subunit TIM9 B(Fracture callus protein 1) (FxC1).
AF077354	10599	Q63617	10600	BC002528	10601	P34932	10602	93.17	Ischemia responsive 94 kDa protein (Irp94)	AF077354 Rattus norvegicus ischemia responsive 94 kDa protein (Irp94) mRNA, complete cds		
AF080568	10603	P19836	10604	D84307	10605	Q89447	10606	88.6	Phosphate cytidylyltransferase 2, ethanolamine	AF080568 Rattus norvegicus CTP:phosphoethanolamine cytidylyltransferase mRNA, complete cds		

Table 2.

AF0832 69	10607	O88658	10608	AI768321	10609	O15143	10610	92.74	Actin-related protein complex 1b (14 on d.s.)	AF089817	AF089817 Rattus norvegicus p41-Arc mRNA, complete cds	AF083269 Rattus norvegicus p41-Arc mRNA, complete cds	ARP2/3 complex 41 kDa subunit (P41- ARC) (Actin- related protein 2/3complex subunit 1B).
AF0321 20	10611	Q9Z254	10612	AF028824	10613	O14908	10614	87.98	Regulator of G- protein signaling 19	AF089817	AF089817 Rattus norvegicus RGS-GAIP Interacting protein GIPC mRNA, complete cds	AF089817 Rattus norvegicus RGS-GAIP Interacting protein GIPC mRNA, complete cds	GAIP C- terminus interacting protein GIPC (RGS-GAIP interactingprotei n) (GLUT1 C- terminal binding protein) (GLUT1CBP).
AF0815 61	10615	AAC64 584	10616	AF321237	10617	AAG452 08	10618	33	NP3 olfactory receptor	AF091561	AF091561 Rattus norvegicus isolate AIV-LY1 olfactory receptor mRNA, partial cds	AF091561 Rattus norvegicus isolate AIV-LY1 olfactory receptor mRNA, partial cds	
AF0855 76	10619	AAC64 408	10620	AB000520	10621	BAA225 14	10622	85.26	APS protein	AF085576	AF085576 Rattus norvegicus APS protein mRNA, complete cds	AF085576 Rattus norvegicus APS protein mRNA, complete cds	
NM_02 1852	10623	NP_068 624	10624	AF062085	10625	AAC786 08	10626	90.79	EH domain binding protein epsin 2	AF086269	AF086269 Rattus norvegicus EH domain binding protein epsin 2 mRNA, complete cds	AF086269 Rattus norvegicus EH domain binding protein epsin 2 mRNA, complete cds	
NM_02 1686	10627	NP_067 718	10628	AF418270	10629	NP_055 742	10630	94.34	Membrane- associated guanylate kinase- interacting protein	AF102853	AF102853 Rattus norvegicus membrane- associated guanylate kinase-interacting protein 1 Maguin-1 mRNA, complete cds	AF102853 Rattus norvegicus membrane- associated guanylate kinase-interacting protein 1 Maguin-1 mRNA, complete cds	
AJ0010 44	10631	g27845 85	10632	M33011	10633	P18422	10634	80.22	Protein phosphatase 1, regulatory (inhibitor) subunit 5	AJ001044	AJ001044 Rattus norvegicus RNEGP314H Rattus norvegicus mRNA for EGP-314 protein homologue	AJ001044 Rattus norvegicus RNEGP314H Rattus norvegicus mRNA for EGP-314 protein homologue	

### Table 2.

AJ004858	10635	S19597	10638	X73039	10637	S34118	10638	88	SRY-box containing gene 11	mRNA for Sry-related HMG-box protein Sox11
AJ005113	10639	S06006	10640	D80000	10641	I54383		92.03	SMC (segregation of mitotic chromosomes 1)-like 1 (yeast)	AJ005113 RNAJ5113 Rattus norvegicus mRNA for SMC-protein Molecular characterization of a rat heterochromatin associated SMC-protein
AJ011811	10642	Q8Z1L1	10643	AJ011497	10644	O95471	10645	93	Claudin 7	AJ011811 RNO011832 Rattus norvegicus mRNA for claudin-8, clone RPCCB40, partial
AJ131902	10646	O55148	10647	AK057761	10648	O60861	10649	92.86	Growth arrest specific 7	AJ131902 RNO131902 Rattus norvegicus mRNA for GAS-7 protein
AJ223355	10650	211623 2A	10651	BC015797	10652	Q9JBX3	10653	86.37	Rattus norvegicus mRNA for mitochondrial dicarboxylate carrier (43 on d.s.)	AJ223355 RNAJ3355 Rattus norvegicus mRNA for mitochondrial dicarboxylate carrier
D00688	10654	BAA005 92	10655	NIM_0002 40	10656	P21397	10657	82	Monoamine oxidase A	D00688 RATMAOA Rat monoamine oxidase A gene, complete cds
D10392	10658	P32851	10659	BC003011	10660	Q16623	10661	92.7	Syntaxin A	D10392 Rat mRNA for HPC-1 antigen, C-terminal /cds=(0,897) /gb=D10392 /gi=220778 /lug=Rn.8943 /len=2130
D10587	10662	BAA014 44	10663	D12676	10664	Q14108	10665	82	85kDa sialoglycoprotein (LGP85)	D10587 RATLGP85 Rattus sp. mRNA for 85kDa sialoglycoprotein (LGP85), complete cds
D10729	10666	BAA015 72	10667	XM_01687 9		XP_016 879		93	Proteasome subunit RC1	D10729 RATPSRC1 Rat mRNA for proteasome subunit RC1

Table 2.

D10853	10668	P35433	10669	AA826427	10670	Q06203	10671	91.26	Amidophosphoribosyltransferase	D10853 RATATR Rat mRNA for amidophosphoribosyltransferase	Amidophosphoribosyltransferase precursor (EC 2.4.2.14) (Glutaminephosphoribosylpyrophosphate amidotransferase) (ATASE) (GPAT).
D12769	10672	Q01713	10673	NM_001208	10674	Q13886	10675	91	BTE binding protein	D12769 RATBTEB Rattus norvegicus mRNA for BTE binding protein	Transcription factor BTEB1 (Basic transcription element binding protein 1) (BTE-binding protein 1) (GC box binding protein 1).
D13962	10676	Q07647	10677	M20681	10678	P11169	10679	83	Solute carrier family 2 A3 (neuron glucose transporter)	D13962 RATGLUT3 Rat mRNA for neuron glucose transporter	Solute carrier family 2, facilitated glucose transporter, member 3 (Glucose transporter type 3, brain).

Nuclear.

Integral membrane protein.

Table 2.

D14441	10680	Q05175	10681	AF039656	10682	P80723	10683	72	Brain acidic membrane protein	D17809	D14441 RATNAP22 Rat NAP-22 mRNA for acidic membrane protein of rat brain, complete cds	MEMBRANE ANCHORED, ASSOCIATED WITH THE MEMBRANE S OF "GROWTH CONES" THAT FORM THE TIPS OF ELONGATING AXONS.	Brain acid soluble protein 1 (BASP1 protein) (Neuronal axonal membrane protein NAP-22).
NIM_022860	10684	Q10468	10685	M83651	10686	Q00973	10687	87.83	Beta-4N-acetylglucosaminyltransferase	D17809	D17809 Rat mRNA for beta-4N-acetylglucosaminyltransferase, complete cds /cds=(30,1631) /gb=D17809 /gi=497841 /lug=Rn.10119 /len=2166	Type II membrane protein. Golgi.	Beta-1,4 N-acetylglucosaminyltransferase (EC 2.4.1.82) ((N-acetylneuraminylo)-galactosylglucosylceramide) (GM2/GD2 synthase)(GalNAc-T).
D26564	10688	Q63692	10689	NIM_016742	10690	Q61081	10691	84	Rattus norvegicus mRNA, similar to cdc37		D26564 RATCDS37 Rattus norvegicus mRNA, complete cds, similar to cdc37	Cytoplasmic.	Hsp90 co-chaperone Cdc37 (Hsp90 chaperone protein kinase-targeting subunit) (p50Cdc37).



Table 2.

D29846	10692	Q64244	10693	M34461	10694	P28907	10695	83.33	CD38 antigen (ADP-ribosyl cyclase / cyclic ADP- ribose hydrolase)	D29846 Rat mRNA for ADP-ribosyl cyclase / cyclic ADP-ribose hydrolase (CD38), complete cds /cds=(10,921) /gb=D29846 /gi=497839 /ug=Rn.11414 /len=2248	Type II membrane protein.	ADP-ribosyl cyclase 1 (EC 3.2.2.5) (Cyclic ADP-ribose hydrolase 1)(cADPr hydrolase 1) (CD38 homolog) (CD38H).
D29766	10696	Q63767	10697	AJ242987	10698	P56945	10699	91	V-crk- associated tyrosine kinase substrate	D29766Poly_ASite#1 RATP130CAS Rattus norvegicus mRNA for Crk-associated substrate, p130, complete cds	FOCAL ADHESIONS AND STRESS FIBERS. UNPHOSPH ORYLATED FORM LOCALIZES IN THE CYTOPLAS M AND CAN MOVE TO THE MEMBRANE UPON TYROSINE PHOSPHOR YLATION.	CRK-associated substrate (P130CAS) (Breast cancer anti- estrogenresista nce 1 protein).
D31874	10700	P53670	10701	BC013051	10702	P53671	10703	91.03	LIM motif- containing protein kinase 2	D31874 Rat mRNA for LIMK-2a, complete cds /cds=(62,1978) /gb=D31874 /gi=1684612 /ug=Rn.11013 /len=3455	Cytoplasmic.	LIM domain kinase 2 (EC 2.7.1.-) (LIMK- 2).

Table 2.

D37880	10780	P55146	10705	U02566	10706	Q06418	10707	88.67	Bruton agammaglobu- linemia tyrosine kinase (32 on d.e.)	D37880 Rat mRNA for Sky, complete cds /cds=(25,2667) /gb=D37880 /gi=1498195 /ug=Rn.8883 /len=3726	Type I membrane protein.	Tyrosine-protein kinase receptor TYRO3 precursor (EC 2.7.1.112)(Tyros- ine-protein kinase SKY).
D38222	10708	g10548 36	10709	L18983	10710	Q16649	10711	88	Tyrosine phosphatase- like protein 1A- 2a	D38222 RATPDPTLP Rat mRNA for protein tyrosine phosphatase-like protein, complete cds		
D38380	10712	P12346	10713	M12530	10714	P02787	10715	68	Transferrin	D38380 RATTa Rattus norvegicus mRNA for transferrin, complete cds	Secreted.	Serotransferrin precursor (Transferrin) (Siderophilin) (Beta-1- metabinding globulin).
D38468	10718	S06084	10717	D86043	10718	JC5287	10719	66	Protein tyrosine phosphatase, non-receptor type substrate 1 (SHP substrate 1)	D38468 Rattus norvegicus mRNA for BIT, complete cds /cds=(288,1817) /gb=D38468 /gi=2190165 /ug=Rn.22662 /len=2355		
D45249	10720	BAA082 06	10721	NM_0082 63	10722	Q06323	10723	85	Proteasome activator rPA28 subunit alpha	D45249 RATPRPA28B Rat mRNA for proteasome activator rPA28 subunit alpha, complete cds		
D49363	10724	BAA083 59	10725	AY026764	10726	AAK019 39	10727	87	perchloric acid soluble protein	D49363 RATPSP1 Rat mRNA for perchloric acid soluble protein, complete cds		

Table 2.

D49847	10728	P28354	10728	BC000631	10730	P28354	10731	93.36	Rat mRNA for Ash-e	D49847 Rat mRNA for Ash-e, complete cds /cds=(144,323) /gb=D49847 /gi=914960 /ug=Rn.3360 /len=1739	Growth factor receptor-bound protein 2 (GRB2 adapter protein)(SH2/SH3 adapter GRB2) (ASH protein).
D50558	10732	BAA23470	10733	U04343	10734	P42081	10735	82.52	Membrane glycoprotein	D50558 Rattus rattus mRNA for membrane glycoprotein, complete cds	
D63665	10736	Q63371	10737	X97058	10738	Q15077	10739	84.8	Novel G protein-coupled P2 receptor	D63665 Rat mRNA for novel G protein-coupled P2 receptor, complete cds /cds=(439,1425) /gb=D63665 /gi=1086007 /ug=Rn.10871 /len=1922	P2Y purinoceptor 6 (P2Y6).
D63886	10740	BAA22223	10741	NM_005941	10742	P51512	10743	80	MT3-MMP-del	D63886 Rattus sp. mRNA for MT3-MMP-del, complete cds	
D78613	10744	BAA11433	10745	XM_005781		XP_005781		80	Protein tyrosine phosphatase epsilon M	D78613 RATPTPEB Rat mRNA for protein tyrosine phosphatase epsilon M, partial cds	Integral membrane protein.
D82074	10746	BAA11535	10747	XM_002573	10748	XP_002573	10749	85	BHF-1 (12 on d.s.)	D82074 RATBHF1MA Rattus sp. mRNA for BHF-1, complete cds	
D83948	10750	P70501	10751	AK000962	10752	g1469167	10753	93.27	S1-1 protein from liver	D83948mRNA Rat adult liver mRNA for S1-1 protein, complete cds /cds=UNKNOWN /gb=D83948 /gi=1865639 /ug=Rn.8822 /len=3123	RNA-binding protein 10 (RNA binding motif protein 10) (S1-1 protein).

Table 2.

D85189	10754	O35547	10755	NIM_022977	10756	O60488	10757	91.08	Acyl-CoA synthetase (36 on d.s.)	D85189 Rattus norvegicus mRNA for Acyl-CoA synthetase, complete cds /cds=(185,2197) /gb=D85189 /gi=2392022 /ug=Rn.2366 /len=4862	Long-chain-fatty-acid-CoA ligase 4 (EC 6.2.1.3) (Long-chain acyl-CoA synthetase 4) (LACS 4).
D86557	10758	BAA18880	10759	NIM_020439	10760	NP_065172	10761	98	Protein Kinase	D86557 Rattus norvegicus mRNA for Kinase, partial cds	6-phosphofructose-2-kinase/fructose-2,6-bisphosphatase 3 (6PF-2-K/Fru-2,6-P2ASE brain-type isozyme) (RB2K) [Includes: 6-phosphofructose-2-kinase (EC 2.7.1.105); Fructose-2,6-bisphosphatase (EC 3.1.3.46)].
D87240	10762	O35096	10763	AL295747	10764	Q16875	10765	94.86	RB2K1 mRNA for fructose-6-phosphate 2-kinase/fructose-2,6-bisphosphatase	D87240 Rattus norvegicus RB2K1 mRNA for fructose-6-phosphate 2-kinase/fructose-2,6-bisphosphatase, complete cds /cds=(405,2072) /gb=D87240 /gi=2317651 /ug=Rn.10791 /len=2148	
D87515	10766	O09175	10767	AL390139	10768	Q9H4A4	10769	92.44	Aminopeptidase B	D87515 Rat mRNA for aminopeptidase-B, complete cds /cds=(5,1954) /gb=D87515 /gi=1754514 /ug=Rn.10979 /len=2192	Aminopeptidase B (EC 3.4.11.6) (Ap-B) (Arginyl aminopeptidase) (Arginine aminopeptidase) (Cytosol aminopeptidase IV).

Secreted.

Table 2.

D88250	10770	JC6554	10771	J04080	10772	Q8UCV3	10773	76	Serine protease	D88250 Rattus norvegicus mRNA for serine protease, complete cds /cds=(246,2330) /gb=D88250 /gi=3080541 /ug=Rn.4037 /len=2908	Membrane- associated.	Phospholipase D2 (EC 3.1.4.4) (PLD 2) (Choline phosphatase 2)(Phosphatidyl choline- hydrolyzing phospholipase D2) (PLD1C) (rPLD2).
D88872	10774	P70498	10775	AF038441	10776	O14939	10777	88.04	Phospholipase D	D88872 Rat mRNA for phospholipase D, complete cds /cds=(336,3137) /gb=D88872 /gi=2077842 /ug=Rn.9798 /len=4562		
D89340	10778	O55096	10779	AK021449	10780	Q8NY33	10781	89.98	Dipeptidyl peptidase III	D89340 Rattus norvegicus mRNA for dipeptidyl peptidase, complete cds /cds=(14,2497) /gb=D89340 /gi=2832805 /ug=Rn.10902 /len=2615	Cytoplasmic.	Dipeptidyl- peptidase III (EC 3.4.14.4) (DPP III) (Dipeptidylamin opeptidase III) (Dipeptidyl arylamidase III).
D90404	10782	P80067	10783	AA296068	10784	S86504		96.07	Cathepsin C (dipeptidyl peptidase I)	D90404 RATCATC Rat mRNA for cathepsin C	Lysosomal.	Dipeptidyl- peptidase I precursor (EC 3.4.14.1) (DPP- I) (DPI)(Cathepsin C) (Cathepsin J) (Dipeptidyl transferase).

Table 2.

E00444	10785	No Rat Protein Found.	J03909	10786	P13284	10787	72	ESTs, Moderately similar to GILT (GAMMA-INTERFERON INDUCIBLE PROTEIN IP-30) [H.sapiens]	E00444cds DNA coding for gamma-interferon
E01789	10788	CAA28036	10789	M13975	10790	Q9UE49	10791	93	E01789cds cDNA sequence coding for rat C-kinase type-II (beta-2)
E13732	10792	NP_065417	10793	XM_030395		XP_030395	80	CC chemokine receptor protein	E13732cds cDNA encoding rat CC chemokine receptor protein
J00735	10794	NP_036691	10795	NM_021870	10796	P02679	10797	76	J00735 RATFBRGB rat fibrinogen gamma chain-b mma
J02612	10798	P08430	10799	AV683870	10800	P22310	10801	88.71	J02612mRNA RATUDPGR Rat UDP-glucuronosyltransferase mRNA, complete cds
									Microsomal.
									UDP-glucuronosyltransferase 1-6 precursor, microsomal (EC 2.4.1.17)(UDPGT) (UGT1-6) (UGT1-6) (UGT1A6) (A1) (P-nitrophenolspecific).

Table 2.

NM_017000	10802	P05982	10803	NM_000903	10804	P15559	10805	81	Diaphorase (NADH/NADP H)	J02679	J02679 Rat NAD(P) <sup>+</sup> H-menadi- one reductase mRNA, complete cds /cds=(74,998) /gb=J02679 /gi=205741 /ug=Rn.11234 /len=1501	Cytoplasmic.	NAD(P) <sup>+</sup> H dehydrogenase [quinone] 1 (EC 1.8.99.2) (Quinone reductase 1)(QR1) (DT- diaphorase) (DTD) (Azoreductase) (Phylloquinone reductase)(Men- adione reductase).
J02749	10806	P21775	10807	X12966	10808	P09110	10809	86	Acetyl-CoA acyltransferas e, 3-oxo acyl- CoA thiolase A, peroxisomal	J02749 Rat peroxisomal 3-ketoacyl-CoA thiolase mRNA, complete cds /cds=(25,1299) /gb=J02749 /gi=205096 /ug=Rn.8913 /len=1580	Peroxisomal.	3-ketoacyl-CoA thiolase A, peroxisomal precursor (EC 2.3.1.16) (Beta- keto thiolase A) (Acetyl-CoA acyltransferase A) (Peroxisomal 3-oxoacyl-CoA thiolase A).	
J03624	10810	P10683	10811	M77140	10812	P22466	10813	90.2	Galanin	J03624 Rat galanin (a neuropeptide) mRNA, complete cds /cds=(144,518) /gb=J03624 /gi=204236 /ug=Rn.8929 /len=699	Secreted.	Galanin precursor [Contains: Galanin; Galanin message- associated pepti- de (GMAP)].	

Table 2.

J04187	10814	10818	P15149	10815	U22028	10816	Q16696	10817	67	Cytochrome P450 IIA2 (see 257 on this sheet)	J04187 Rat cytochrome P450 IIA2 protein (CYP2A2) mRNA, complete cds /cds=(9,1487) /gb=J04187 /gi=204901 /ug=Rn.9867 /len=2259	Membrane-bound. Endoplasmic reticulum.	Cytochrome P450 2A2 (EC 1.14.14.1) (CYP1A2) (Testosterone 15-alpha-hydroxylase) (P450-UT-4).
J05022	10818	P20717	10819	BC009701	10820	Q9Y2J8	10821	88.67	Peptidyl arginine deiminase, type II	J05022 Rat peptidylarginine deiminase mRNA /cds=(60,2057) /gb=J05022 /gi=205959 /ug=Rn.2842 /len=4507		Protein-arginine deiminase type II (EC 3.5.3.15) (Peptidylarginin deiminase II).	
NM_012516	10822	P16257	10823	XM_040167	XP_040167	79	Benzodiazepine receptor (peripheral)	J05122	J05122 Rat peripheral-type benzodiazepine receptor (PKBS) mRNA, complete cds /cds=(34,543) /gb=J05122 /gi=206161 /ug=Rn.1820 /len=781	MITOCHONDRIAL; INTEGRAL MEMBRANE PROTEIN.	Peripheral-type benzodiazepine receptor (PBR) (PKBS) (Mitochondrial benzodiazepine receptor).		
J05210	10824	P16638	10825	X84330	10826	P53396	10827	80.47	ATP citrate lyase (17 on d.s.)	J05210 Rat ATP citrate-lyase mRNA, complete cds /cds=(72,3374) /gb=J05210 /gi=949989 /ug=Rn.986 /len=4269	Cytoplasmic.	ATP-citrate (pro-S)-lyase (EC 4.1.3.8) (Citrate cleavage enzyme).	
J05499	10828	P28492	10829	AK000467	10830	Q8UI32	10831	89.45	L-glutamine amidohydrolase	J05499 Rattus norvegicus L-glutamine amidohydrolase mRNA, complete cds /cds=(131,1738) /gb=J05499 /gi=1196813 /ug=Rn.10202 /len=2225	Mitochondrial	Glutaminase, liver isoform, mitochondrial precursor (EC 3.5.1.2) (GLS)(L-glutamine amidohydrolase) (L-glutaminase).	



Table 2.

NM_02 0075	10832	Q07205	10833	NM_0019 69	10834	P55010	10835	80	Eukaryotic Initiation factor 5 (eIF-5) (37 on d.s.)	K01677	K01677 Rat brain-specific Identifier sequences (ID) clone p1B337 /cde=UNKNOWN /gb=K01677 /gi=206764 /ug=Rn.3508 /len=1000	Eukaryotic translation Initiation factor 5 (eIF-5).
K02815	10836	S04363		M17847	10837	P01907	10838	87.59	RT1.B- 1(alpha) chain of integral membrane protein		K02815 Rat MHC RT1-B region class II (Ia antigen) A-alpha glycoprotein mRNA (haplotype Rt1-u) /cde=(0:390) /gb=K02815 /gi=205407 /ug=Rn.6100 /len=681	
L00111	10839	761799 A		X15943	10840	P01258	10841	78	Calcitonin		L00111 unknownS536 Rat calcitonin gene /cde=(9,395) /gb=L00111 /gi=457369 /ug=Rn.10335 /len=420	
L02896	10842	P35053	10843	X54232	10844	P35052	10845	87.92	Glypican 1		L02896 Rattus norvegicus major heparan sulfate proteoglycan (glypican) mRNA, complete cds /cde=(221,1897) /gb=L02896 /gi=204424 /ug=Rn.7044 /len=3497	Attached to the membrane by a GPI- anchor.
L03201	10846	Q02765	10847	M80696	10848	P25774	10849	76	Cathepsin S		L03201 Rattus norvegicus cathepsin S mRNA, complete cds /cde=(27,1019) /gb=L03201 /gi=203649 /ug=Rn.11347 /len=1330	Lysosomal.
L07825	10850	Q03386	10851	AB037729	10852	Q12967	10853	90.5	Rai guanine nucleotide dissociation stimulator		L07825 RATGND5A Rattus rattus guanine nucleotide dissociation stimulator for a ras- related GTPase mRNA, complete cds	Rai guanine nucleotide dissociation stimulator (RaiGEF) (RaiGDS).
L10336	10854	Q08326	10855	S78873	10856	P47224	10857	100	ESTs, Highly similar to MSS4 GUANINE NUCLEOTIDE EXCHANGE FACTOR MSS4 [R.norvegicus]		L10336 Rattus rattus guanine nucleotide- releasing protein (mss4) mRNA, complete cds /cde=(723,1094) /gb=L10336 /gi=204449 /ug=Rn.11302 /len=2490	

Table 2.

L12025	10858	AAB807 67	10859	M24407	10860	P15151	10861	80.17	Tumor-associated glycoprotein pE4 - human poliovirus receptor.	L12025 Rattus norvegicus tumor-associated glycoprotein E4 (Tage4) mRNA, complete cds /cds=(65,1303) /gb=L12025 /gi=2506084 /ug=Rn.10877 /len=2171	
L12382	10862	P16587	10863	M33384	10864	P16587	10865	100	ADP-ribosylation factor 3	L12382 Rattus norvegicus ADP-ribosylation factor 3 mRNA, complete cds /cds=(186,731) /gb=L12382 /gi=438865 /ug=Rn.9784 /len=826	ADP-ribosylation factor 3.
L12384	10866	P26437	10867	B1837414	10868	P26437	10869	95.06	ADP-ribosylation factor 5	L12384 Rattus norvegicus ADP-ribosylation factor 5 mRNA, complete cds /cds=(94,636) /gb=L12384 /gi=438869 /ug=Rn.10874 /len=1058	ADP-ribosylation factor 5.
L14680	10870	I53744	10871	M13995	10872	P10415	10873	93.65	B cell lymphoma 2 associated oncogene	L14680 Rattus norvegicus bcl-2 mRNA, complete cds /cds=(234,944) /gb=L14680 /gi=408946 /ug=Rn.9896 /len=1179	
L17318	10874	B48013	10875	No human homolog found.		P24928	10876	36	Proline-rich proteoglycan (PRPG2)	L17318 Rattus norvegicus proline-rich proteoglycan (PRPG2) mRNA, complete cds /cds=(21,908) /gb=L17318 /gi=310199 /ug=Rn.9870 /len=1011	
L19112	10877	g31014 9		U11814	10878	P21802	10879	97.74	Rat (clone R2(A3B)) heparin-binding fibroblast growth factor receptor 2 (extracellular domain) mRNA, partial cds	L19112 Rat (clone R2(B3C)) heparin-binding fibroblast growth factor receptor 2 (extracellular domain) mRNA, partial cds /cds=(0,1061) /gb=L19112 /gi=310150 /ug=Rn.12732 /len=1062	

Table 2.

NM_03 1834	10880	P17988	10881	XM_051063	XP_051063	73	Minoxidil sulfotransferase	L18998	L19998 Rat minoxidil sulfotransferase mRNA, complete cds /gb=L19998 /gi=310178 /ug=Rn.1507 /len=1227	Cytoplasmic.	Aryl sulfotransferase (EC 2.8.2.1) (Phenol sulfotransferase) (PST-1)(Sulfokinase) (Aryl sulfotransferase IV) (ASTIV) (Tyrosine- ester)sulfotransferase (Minoxidil sulfotransferase).
L21192	10882	A26984	10883	S66541	10884	84	Growth accentuating protein 43	L26292	L21192 Rat GAP-43 gene /cds=(56,736) /gb=L21192 /gi=310121 /ug=Rn.10928 /len=1325		
L23148	10885	P41135	10886	AA689598	10887	91.74	Inhibitor of DNA binding 1, helix-loop- helix protein (splice variation)		L23148 Rattus norvegicus Inhibitor of DNA-binding, splice variant 1d1.25, complete cds /cds=(61,555) /gb=L23148 /gi=516116 /ug=Rn.2113 /len=1124	Nuclear.	DNA-binding protein inhibitor ID-1.
AF3905 46	10888	AAK733 55	10889	AF105036	10890	90	Rattus norvegicus (clone 180) FSH-regulated protein mRNA	L26292	L26292 RATFSHREG Rattus norvegicus (clone 59) FSH-regulated protein mRNA		
NM_03 1579	10892	NP_113 767	10893	U48296	10894	95.4	Protein tyrosine phosphatase 4a1	L27843	L27843 RATPRL1NP Rat tyrosine phosphatase (PRL-1) mRNA, complete cds		
					XP_034503	10895					

Table 2.

L29281	10896	S50216	10897	M35563	10898	P19525	10899	62	Protein kinase, Interferon-inducible double stranded RNA dependent	L29281 Rattus norvegicus initiation factor-2 kinase (eIF-2a) mRNA, complete cds /cds=(150,1691) /gb=L29281 /gi=468372 /ug=Rn.10022 /len=3808
L29573	10900	I59558		M65105	10901	P23975	10902	88	Solute carrier family 6 (neurotransmitter transporter, noradrenalin), member 2	L29573 RATNOREPIN Rat NaCl-dependent norepinephrine transporter mRNA, partial cds
L32591	10903	P48317	10904	M60974	10905	P24522	10906	95	Gadd45 (3, 44 on d.s.)	L32591 mRNA RATGADD45X Rattus norvegicus GADD45 mRNA, complete cds
L34821	10907	P51650	10908	L34820	10909	P51649	10910	84.34	Succinic semialdehyde dehydrogenase	L34821 Rat succinate-semialdehyde dehydrogenase (SSADH) mRNA, 3' end /cds=(0,1488) /gb=L34821 /gi=556394 /ug=Rn.10070 /len=1731
M13962	10911	P08760	10912	BM01959	10913	P08236	10914	88.96	Glucuronidase, beta	M13962 mRNA#2 Rat beta-glucuronidase mRNA, complete cds /cds=UNKNOWN /gb=M13962 /gi=204328 /ug=Rn.3692 /len=2472
										Lysosomal. Beta-glucuronidase precursor (EC 3.2.1.31).

Table 2.

Y00480	10915	CAA68 540	10916	NM_0191 11	10917	P01903	10918	70	Rat (diabetic BB) MHC class II alpha chain RT1.D alpha (u) (11 on d.s.)	M15562	M15562 Rat MHC class II RT1.u-D-alpha chain mRNA, 3' end /cgs=(0,437) /gb=M15562 /gi=205435 /ug=Rn.4200 /len=805	Secreted.	Neuropeptide Y precursor (NPY).
M15880	10919	P07808	10920	K01911	10921	P01303	10922	88.66	Neuropeptide Y		M15880 Rat neuropeptide Y mRNA, complete cds /cgs=(68,364) /gb=M15880 /gi=205756 /ug=Rn.9714 /len=539		
M15944	10923	P07861	10924	X07166	10925	P08473	10926	91.18	Membrane metal- loendo- peptidase (neutral endopeptidase /enkephalinase) (27 on d.s.)		M15944 Rat enkephalinase (neutral endopeptidase) mRNA /cgs=(78,2330) /gb=M15944 /gi=204031 /ug=Rn.11166 /len=3243	Type II membrane protein.	Nepriylisin (EC 3.4.24.11) (Neutral endopeptidase) (NEP)(Enkephal- inase).
M19359	10927	P10065	10928	M17315	10929	P11844	10930	83	Gamma-A- crystallin gene		M19359mRNA#2 Rat gamma-crystallin gene cluster, encoding gamma-A (gamma 1-1), gamma-B (gamma 1-2), gamma-C (gamma 2- 1), gamma-D (gamma 2-2), and gamma-E (gamma 3-1) crystallins, complete cds /cgs=(27,551) /gb=M19359 /gi=203628 /ug=Rn.10805 /len=618		
M22756	10931	P19234	10932	M22538	10933	P19404	10934	88.72	24-kDa subunit of mitochondrial NADH dehydrogenase		M22756 Rat 24-kDa subunit of mitochondrial NADH dehydrogenase mRNA, 3' end /cgs=(0,725) /gb=M22756 /gi=205627 /ug=Rn.11092 /len=771	Matrix and cytoplasmic side of the mitochondrial inner membrane.	NADH- ubiquinone oxidoreductase 24 kDa subunit, mitochondrial precursor(EC 1.6.5.3) (EC 1.6.99.3) (Fragment).
M23568	10935	A28122	10936	XM_04363 2		MAHU	10937	73	Alpha-2- macroglobulin (24, 25 on d.s.)		M23566exon RATA2MAC2 Rattus norvegicus alpha-2-macroglobulin gene, 3 end		

Table 2.

M23643	10938	RHRTT	10939	M63582	10940	P20396	10941	55	Thyrotropin releasing hormone	M23643cds RATTRH02 Rattus norvegicus thyrotropin releasing hormone (TRH) gene, exon 2		
M24026	10942	P15978	10943	U14756	10944	138874		75	RT1 class Ib gene (40 on d.s.)	M24026 Rat MHC class I RT1 (RT44) mRNA (u haplotype), 3' end /cds=(0,182) /gb=M24026 /gl=205446 /ug=Rn.3577 /len=635	Class I histocompatibility antigen, Non-RT1.A alpha-1 chain precursor.	
M25758	10945	P16446	10946	M73704	10947	Q00169	10948	88	Phosphatidylinositol transfer protein	M25758 Rat phosphatidylinositol transfer protein mRNA, complete cds /cds=(192,1007) /gb=M25758 /gl=206494 /ug=Rn.9771 /len=1638	Cytoplasmic. Phosphatidylinositol transfer protein alpha isoform (PtdIns transferprotein alpha) (PtdInsTP) (PI-TP-alpha).	
M31178	10949	P07171	10950	X06661	10951	P05937	10952	91.84	Cerebellar Ca-binding protein, spot 35 protein	M31178 Rat calbindin D28 mRNA, complete cds /cds=(285,1070) /gb=M31178 /gl=203234 /ug=Rn.3908 /len=2280	Calbindin (Vitamin D-dependent calcium-binding protein, avian-type)(Calbindin D28) (D-28K) (Spot 35 protein).	

Table 2.

10953	10954	10955	NP_002818	10956	88.5	Protein-tyrosine phosphatase (34 on d.s.)	M33982	M33982 Rat protein-tyrosine-phosphatase (PTPase) mRNA, complete cds /cds=(119,1417) /gb=M33982 /gi=208498 /ug=Rn.11317 /len=4127	ASSOCIATED TO THE ENDOPLASMIC RETICULUM VIA ITS C-TERMINAL DOMAIN WITH ITS PHOSPHATASE DOMAIN ORIENTED TOWARDS THE CYTOPLASM.	Protein-tyrosine phosphatase, non-receptor type 1 (EC 3.1.3.48)(Protein-tyrosine phosphatase 1B) (PTP-1B).
10953	10954	10955	NP_002818	10956	88.5	Protein-tyrosine phosphatase (34 on d.s.)	M33982	M33982 Rat protein-tyrosine-phosphatase (PTPase) mRNA, complete cds /cds=(119,1417) /gb=M33982 /gi=208498 /ug=Rn.11317 /len=4127	ASSOCIATED TO THE ENDOPLASMIC RETICULUM VIA ITS C-TERMINAL DOMAIN WITH ITS PHOSPHATASE DOMAIN ORIENTED TOWARDS THE CYTOPLASM.	Protein-tyrosine phosphatase, non-receptor type 1 (EC 3.1.3.48)(Protein-tyrosine phosphatase 1B) (PTP-1B).
M36410	10957	10958	P18297	10959	74	Septaplerin reductase	M36410	M36410 Rat septaplerin reductase mRNA, partial cds /cds=(0,778) /gb=M36410 /gi=206895 /ug=Rn.6658 /len=1157	Cytoplasmic.	Septaplerin reductase (EC 1.1.1.153) (SPR).
M38135	10961	10962	P00786	10963	87.97	Cathepsin H	M38135	M38135 Rat cathepsin H (RCHII) mRNA /cds=(102,998) /gb=M38135 /gi=203340 /ug=Rn.1997 /len=1360	Lysosomal.	Cathepsin H precursor (EC 3.4.22.18) (Cathepsin B3) (Cathepsin BA).
M58340	10965	10966	P21425	10967	96.36	S6 Kinase	M58340	M58340 Rat S6 protein kinase mRNA, complete cds /cds=(21,1598) /gb=M58340 /gi=206841 /ug=Rn.4042 /len=2287	CYTOPLASMIC. ALSO FOUND IN THE SOLUBLE SYNAPTOSOMAL FRACTIONS.	Ribosomal protein S6 kinase 1 (EC 2.7.1.-) (S6K) (P70-S6K).





Table 2.

M63282	10985	P29596	10986	NM_004024	10987	P18847	10988	88.18	Activating transcription factor 3	M64092	M63282 Rat leucine zipper protein mRNA, complete cds /cds=(162,707) /gb=M63282 /gi=205236 /ug=Rn.9664 /len=1893	Nuclear.	Cyclic-AMP-dependent transcription factor ATF-3 (Activating transcription factor 3) (Liver regeneration factor 1) (LRF-1).
NM_012627	10989	P27775	10990	AF225513	10991	Q8C010	10992	84.4	cAMP-dependent protein kinase (catalytic subunit binding) inhibitor 2	M64092	M64092 Rat testis cAMP-dependent protein kinase inhibitor protein mRNA, complete cds /cds=(255,470) /gb=M64092 /gi=206186 /ug=Rn.9748 /len=1350		cAMP-dependent protein kinase inhibitor, beta form (PKI-beta) (cAMP-dependent protein kinase inhibitor, testis isoform).
M64301	10993	P27704	10994	NM_002748	10985	Q16659	10996	91.51	Mitogen-activated protein kinase 6		M64301 RATERK3 Rat extracellular signal-related kinase (ERK3) mRNA, complete cds		Mitogen-activated protein kinase 6 (EC 2.7.1.-) (Extracellular signal-regulated kinase 3) (ERK-3) (p55-MAPK).
M64376	10997	P23265	10998	NM_012377	10999	g3290001		80.65	Rat olfactory protein		M64376 RATOLFPROB Rat olfactory protein mRNA, complete cds	Integral membrane protein.	Olfactory receptor-like protein F3.
M64711	11000	P22388	11001	BC009720	11002	P05305	11003	89.44	Endothelin 1		M64711 Rat endothelin-1 mRNA, complete cds /cds=(184,792) /gb=M64711 /gi=204067 /ug=Rn.10918 /len=1385	Secreted.	Endothelin-1 precursor (ET-1).
M73049	11004	g55622		S76286	11005	Q16352	11006	89	Intermedin, alpha		M73049 Rat alpha-intermedin gene, complete cds /cds=(1292,2809) /gb=M73049 /gi=204863 /ug=Rn.10968 /len=4535		

Table 2.

M74223	11007	P20156	11008	BF223121	11009	g563008 5	84.34	VGf nerve growth factor inducible		M74223 Rat VGf mRNA, complete cds /cds=(183,2036) /gb=M74223 /gi=207650 /ug=Rn.9704 /len=2507	Stored in secretory vesicles and then secreted.	Neurosecretory protein VGf precursor (VGf8a protein).
NIM_02 0073	11010	P25981	11011	U17418	11012	Q03431	87.33	Parathyroid hormone receptor	M77184	M77184 Rat parathyroid hormone receptor mRNA, complete cds /cds=(72,1847) /gb=M77184 /gi=206034 /ug=Rn.11357 /len=2065	Integral membrane protein.	Parathyroid hormone/parath yroid hormone- related peptide receptor/precurs or (PTH/PTHr receptor).
M80601	11014	P47816	11015	AK055180	11016	g379013 3	87.27	Programmed cell death 2		M80601 Rat zinc finger protein (RP8) mRNA, 3' end /cds=(0,863) /gb=M80601 /gi=208717 /ug=Rn.6959 /len=912	Nuclear .	Programmed cell death protein 2 (Zinc finger protein Rp-8) (Fragment).
M83143	11017	P13721	11018	AA705428	11019	P15907	89.67	beta- galactoside- alpha 2,6- sialyltransferase		M83143 Rat beta-galactoside-alpha 2,6- sialyltransferase mRNA /cds=(104,748) /gb=M83143 /gi=203146 /ug=Rn.1409 /len=3224	TYPE II MEMBRANE PROTEIN. MEMBRANE- BOUND FORM IN TRANS CISTERNAE OF GOLGI, SOLUBLE FORM IN BODY FLUIDS.	CMP-N- acetylneuramini de-beta- galactosamide- alpha-2,6- sialyltransferase (EC 2.4.99.1) (Beta- galactoside alpha-2,6- sialyltransferase (Alpha 2,6-ST) (Sialyltransferase e 1) (ST6Gal I).
M83678	11021	P35286	11022	X75593	11023	P51153	90	RAB13		M83678 Sprague-Dawley (clone LRB10) RAB13 mRNA, 3' end /cds=(0,494) /gb=M83678 /gi=208532 /ug=Rn.9819 /len=857		Ras-related protein Rab-13 (Fragment).

Table 2.

M86341	11025	Q02589	11026	L13291	11027	P54922	11028	82.79	ESTs, Highly similar to ADP-RIBOSYLARGININE HYDROLASE [R.norvegicus]	M86341 RATADPRHA Rat ADP-ribosylarginine hydrolase mRNA, complete cds		ADP-ribosylarginine hydrolase (EC 3.2.2.19) (ADP-ribose-L-argininecleaving enzyme).
M86389	11029	P42930	11030	L39370	11031	HHHU27	11032	82	Heat shock 27 kDa protein (33 on d.s.)	M86389cds RATHSP27A Rat heat shock protein (Hsp27) mRNA, complete cds		Heat shock 27 kDa protein (HSP 27).
M86621	11033	P54290	11034	M76560	11035	Q02641	11036	95	Calcium channel subunit alpha 2 delta (dihydropyridine - sensitive L-type)	M86621 Rat dihydropyridine-sensitive L-type calcium channel alpha-2 subunit (CCHL2A) gene, complete cds /cds=(154,3429) /gb=M86621 /gi=203954 /ug=Rn.11278 /len=3804	Integral membrane protein.	Dihydropyridine-sensitive L-type, calcium channel alpha-2/delta subunits precursor.
M87067	11037	JQ1484		X77533	11038	Q13705	11039	91.12	Activine receptor 2b (transmembrane serine kinase)	M87067 R.norvegicus activin type IIB receptor mRNA /cds=UNKNOWN /gb=M87067 /gi=202696 /ug=Rn.24240 /len=2041		
M88709	11040	P32736	11041	L34774	11042	Q14982	11043	92.08	Cell adhesion-like molecule	M88709 Rattus norvegicus cell adhesion-like molecule mRNA, complete CDS /cds=(637,1653) /gb=M88709 /gi=203245 /ug=Rn.11366 /len=3054	Attached to the membrane by a GPI-anchor.	Opioid binding protein/cell adhesion molecule precursor (OBCAM)(Opioid-binding cell adhesion molecule) (OPCIML).

Table 2.

M91652	11044	P09606	11045	Y00387	11046	P15104	11047	92	Glutamine synthetase (glutamate-ammonia ligase) (39 on d.s.)	AA799402	M91652 complete Seq Rat glutamine synthetase (glnA) mRNA, complete cds /cds=UNKNOWN /gb=M91652 /gi=204348 /ug=Rn.2204 /len=2783	Cytoplasmic.	Glutamine synthetase (EC 6.3.1.2) (Glutamate-ammonia ligase).
M98049	11048	P25031	11049	D13510	11050	Q06141	11051	80.22	Pancreatitis-associated protein precursor (pap)	AA799402	M98049 RATPAPC Rattus rattus pancreatitis-associated protein (pap) mRNA, complete cds	SECRETED. FOUND IN THE APICAL REGION OF PANCREATIC ACINAR CELLS.	Pancreatitis-associated protein 1 precursor (Peptide 23) (REG-2).
M99418	11052	P30553	11053	L04473	11054	P32239	11055	88.73	Cholecystokinin B receptor	AA799402	M99418 Rat brain cholecystokinin receptor mRNA, complete cds /cds=(135,1493) /gb=M99418 /gi=203459 /ug=Rn.10324 /len=2243	Integral membrane protein.	Gastrin/cholecystokinin type B receptor (CCK-BR).
M63983	11056	P27605	11057	L28382	11058	AAB593	11059	94	Hypoxanthine phosphoribosyltransferase	AA799402	rc_AA799402 EST188899 Rattus norvegicus cDNA, 3' end /clone=RHEAA77 /clone_end=3 /gb=AA799402 /gi=2862357 /ug=Rn.6182 /len=590	Cytoplasmic.	Hypoxanthine-guanine phosphoribosyltransferase (EC 2.4.2.8) (HGPRT)(HGP RTase).
AA799406	11060	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA799406 EST188903 Rattus norvegicus cDNA, 3' end /clone=RHEAA79 /clone_end=3 /gb=AA799406 /gi=2862361 /ug=Rn.80 /len=591		
AA789448	11061	No Rat Protein Found.		BF109813	11062	P13726	11063	96.15	EST(not recognised)		rc_AA789448 EST188945 Rattus norvegicus cDNA, 3' end /clone=RHEAB18 /clone_end=3 /gb=AA789448 /gi=2862403 /ug=Rn.8296 /len=616		



Table 2.

AF2061 62	11079	Q9WVL 2	11080	NM_0054 19	11081	P52630	11082	67	Signal transducer and activator of transcription 2 (Stat2)	AA799569	rc_AA799569 EST189068 Rattus norvegicus cDNA, 3' end /clone=RHEAC65 /clone_end=3 /gb=AA799569 /gi=2862524 /ug=Rn.22213 /len=491	Nuclear; translocated into the nucleus in response to phosphorylati on .	Signal transducer and activator of transcription 2.
AA7995 81	11083	No Rat Protein Found.	D86972	11084	Q93075	11085	89	ESTs, Moderately similar to PUTATIVE DEOXYRIBO NUCLEASE KIAA0218 [H.sapiens] EST(not recognised)	rc_AA799581 EST189078 Rattus norvegicus cDNA, 3' end /clone=RHEAC77 /clone_end=3 /gb=AA799581 /gi=2862536 /ug=Rn.6207 /len=569				
AA7995 99	11086	No Rat Protein Found.	No human homolog found.	11089	S36113	33	ESTs, Weakly similar to PLATELET- ACTIVATING FACTOR ACETYLHYD ROLASE IB ALPHA SUBUNIT [R.norvegicus]	rc_AA799599 EST189098 Rattus norvegicus cDNA, 3' end /clone=RHEAC95 /clone_end=3 /gb=AA799599 /gi=2862554 /ug=Rn.6209 /len=590					
AA7996 00	11087	P43035	11088	L13388	11089	S36113	33	ESTs, Weakly similar to PLATELET- ACTIVATING FACTOR ACETYLHYD ROLASE IB ALPHA SUBUNIT [R.norvegicus]	rc_AA799600 EST189097 Rattus norvegicus cDNA, 3' end /clone=RHEAC96 /clone_end=3 /gb=AA799600 /gi=2862555 /ug=Rn.3774 /len=591				
AA7996 09	11090	No Rat Protein Found.	XM_01201 7	XP_012 017	97	ESTs, Moderately similar to T43443 hypothetical protein DKFZp434A2 315.1 [H.sapiens]	rc_AA799609 EST189108 Rattus norvegicus cDNA, 3' end /clone=RHEAD12 /clone_end=3 /gb=AA799609 /gi=2862564 /ug=Rn.6210 /len=663						

Table 2.

AA7996 16	11091	No Rat Protein Found.	Z50022	11092	P53801	11093	82	ESTs, Moderately similar to PUTATIVE SURFACE GLYCOPROTEIN C21ORF1 PRECURSOR [H.sapiens]		rc_AA799616 EST189113 Rattus norvegicus cDNA, 3' end /clone=RHEAD20 /clone_end=3 /gb=AA799616 /gi=2862571 /ug=Rn.4248 /len=599			
AF0955 85	11094	AAD13 197	11095	11096	JC2324	11097	88.78	ESTs, Weakly similar to A55071 hydrogen peroxide- inducible protein htc-5 - mouse [M.musculus] (LIM protein - homo and rattus)	AA799637	rc_AA799637 EST189134 Rattus norvegicus cDNA, 3' end /clone=RHEAD45 /clone_end=3 /gb=AA799637 /gi=2862592 /ug=Rn.25425 /len=571			
AA7996 45	11098	O08589	11099	11100	O00168	11101	80	FX1D domain- containing ion transport regulator 1		rc_AA799645 EST189142 Rattus norvegicus cDNA, 3' end /clone=RHEAD54 /clone_end=3 /gb=AA799645 /gi=2862600 /ug=Rn.3828 /len=591	Type I membrane protein.	Phospholipase precursor (FX1D domain- containing ion transportregulat or 1).	
X55687	11102	P31750	11103	XP_015 191			98	v-akt murine thymoma viral oncogene	AA799664	rc_AA799664 EST189161 Rattus norvegicus cDNA, 3' end /clone=RHEAD75 /clone_end=3 /gb=AA799664 /gi=2862619 /ug=Rn.6217 /len=611	Cytoplasmic and nuclear after activation by Integrin- linked protein kinase 1 (ILK1).	RAC-alpha serine/threonine kinase (EC 2.7.1.-) (RAC- PK-alpha) (AKT1kinase) (Protein kinase B) (PKB) (C- AKT) (Thymoma viral proto- oncogene).	

Table 2.

AA7986 81	11104	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	rc_AA798681 EST189178 Rattus norvegicus cDNA, 3' end /clone=RHEAD98 /clone_end=3 /gb=AA798681 /gi=2862636 /ug=Rn.20182 /len=481
AA7986 87	11105	No Rat Protein Found.	A1865528	11106 No Human Protein Found.	88.35 EST(not recognised)	rc_AA798687 EST189184 Rattus norvegicus cDNA, 3' end /clone=RHEAE07 /clone_end=3 /gb=AA798687 /gi=2862642 /ug=Rn.3812 /len=564
AA7987 32	11107	No Rat Protein Found.	X96484	11108 Q14129 Human Protein Found.	91.03 ESTs, Moderately similar to DSCR6 PROTEIN [M.musculus]	rc_AA798732 EST189229 Rattus norvegicus cDNA, 3' end /clone=RHEAE60 /clone_end=3 /gb=AA798732 /gi=2862687 /ug=Rn.22467 /len=579
AF1774 76	11110	AAF602 22	11111 XM_01704 2	XP_017 042 No Human Protein Found.	82 CDK5 activator- binding protein C53	rc_AA798745 EST189242 Rattus norvegicus cDNA, 3' end /clone=RHEAE76 /clone_end=3 /gb=AA798745 /gi=2862700 /ug=Rn.3727 /len=568
AA7987 51	11112	No Rat Protein Found.	AV724415	11113 No Human Protein Found.	86.58 EST(not recognised)	rc_AA798751 EST189248 Rattus norvegicus cDNA, 3' end /clone=RHEAE83 /clone_end=3 /gb=AA798751 /gi=2862706 /ug=Rn.3583 /len=671
AA7987 55	11114	P15087	11115 D86479	11116 JC5256 Human Protein Found.	89.52 ESTs, Weakly similar to CARBOXYPE PTIDASE H PRECURSOR [R.norvegicus]	rc_AA798755 EST189252 Rattus norvegicus cDNA, 3' end /clone=RHEAE91 /clone_end=3 /gb=AA798755 /gi=2862710 /ug=Rn.17143 /len=578
AA7987 83	11118	No Rat Protein Found.	A1682207	11119 No Human Protein Found.	96.3 EST(not recognised)	rc_AA798783 EST189280 Rattus norvegicus cDNA, 3' end /clone=RHEAF28 /clone_end=3 /gb=AA798783 /gi=2862738 /ug=Rn.12965 /len=609
AA7987 96	11120	No Rat Protein Found.	AL137285	11121 No Human Protein Found.	91.94 EST(not recognised)	rc_AA798796 EST189293 Rattus norvegicus cDNA, 3' end /clone=RHEAF46 /clone_end=3 /gb=AA798796 /gi=2862751 /ug=Rn.3820 /len=631



Table 2.

D88250	11122	BAA257 97	11123	XM_00664 1	XP_006 641	76	ESTs, Weakly similar to JC6554 probable serine proteinase [R.norvegicus]	AA798803	rc_AA798803 EST189300 Rattus norvegicus cDNA, 3' end /clone=RHEAF55 /clone_end=3 /gb=AA798803 /gi=2862758 /ug=Rn.8235 /len=522	
AA7998 04	11124	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST(not recognised)		rc_AA798804 EST189301 Rattus norvegicus cDNA, 3' end /clone=RHEAF56 /clone_end=3 /gb=AA798804 /gi=2862759 /ug=Rn.25117 /len=582	
U18293	11125	Q62728	11126	X79510	11127	87.03	ESTs, Moderately similar to PROTEIN TYROSINE PHOSPHATA SE, NON- RECEPTOR TYPE 3 [H.sapiens] (see 5 on d.s.)	AA798812	rc_AA798812 EST189308 Rattus norvegicus cDNA, 3' end /clone=RHEAF64 /clone_end=3 /gb=AA798812 /gi=2862767 /ug=Rn.22271 /len=500	Protein tyrosine phosphatase, non-receptor type 21 (EC 3.1.3.48)(Protein tyrosine phosphatase 2E).
AA7998 29	11128	No Rat Protein Found.		U79253	11130	77	ESTs, Moderately similar to ATP SYNTHASE COUPLING FACTOR B, MITOCHOND RIAL PRECURSOR [H.sapiens]		rc_AA798828 EST189326 Rattus norvegicus cDNA, 3' end /clone=RHEAF88 /clone_end=3 /gb=AA798828 /gi=2862784 /ug=Rn.25181 /len=517	
AA7998 90	11132	No Rat Protein Found.		AW96670 2	11133	84.24	EST(not recognised)		rc_AA798890 EST189387 Rattus norvegicus cDNA, 3' end /clone=RHEAG58 /clone_end=3 /gb=AA798890 /gi=2862845 /ug=Rn.22781 /len=463	

Table 2.

AA7999 71	11134	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		ESTs, Weakly similar to S52875 probable membrane protein YDR109c [S.cerevisiae]	rc_AA799971 EST189488 Rattus norvegicus cDNA, 3' end /clone=RHEAH76 /clone_end=3 /gb=AA799971 /gi=2862926 /ug=Rn.8436 /len=483
AA7999 91	11135	No Rat Protein Found.		No Human Protein Found.	93.68	EST(not recognised)	rc_AA799991 EST189488 Rattus norvegicus cDNA, 3' end /clone=RHEAI01 /clone_end=3 /gb=AA799991 /gi=2862946 /ug=Rn.3844 /len=712
AA8000 33	11136	No Rat Protein Found.	BI195716	P50395	11138	ESTs, Weakly similar to MUCIN 2 PRECURSOR [H.aaplens]	rc_AA800033 EST189530 Rattus norvegicus cDNA, 3' end /clone=RHEAI81 /clone_end=3 /gb=AA800033 /gi=2862988 /ug=Rn.6273 /len=643
AA8000 36	11139	No Rat Protein Found.	NM_0145 75	NP_055 390	11141	Schwannomih- interacting protein 1 (SCHIP1)	rc_AA800036 EST189533 Rattus norvegicus cDNA, 3' end /clone=RHEAI65 /clone_end=3 /gb=AA800036 /gi=2862991 /ug=Rn.22212 /len=514
AA8001 70	11142	No Rat Protein Found.	NM_0034 43	Q13105	11144	ESTs, Weakly similar to ECTODERM- NEURAL CORTEX-1 PROTEIN (ENG-1) [M.musculus]	rc_AA800170 EST189667 Rattus norvegicus cDNA, 3' end /clone=RHEAM03 /clone_end=3 /gb=AA800170 /gi=2863125 /ug=Rn.22462 /len=593
AA8001 89	11145	B39066	BE396293	T34520	85.19	ESTs, Weakly similar to B39066 proline-rich protein 15 - [R.norvegicus]	rc_AA800189 EST189688 Rattus norvegicus cDNA, 3' end /clone=RHEAM36 /clone_end=3 /gb=AA800189 /gi=2863154 /ug=Rn.2990 /len=831

Table 2.

AA800200	11147	No Rat Protein Found.	AL042404	11148	O00519	11149	90.4	similar to hypothetical protein FLJ22608 (H. sapiens)	rc_AA800200 EST189897 Rattus norvegicus cDNA, 3' end /clone=RHEAM37 /gb=AA800200 /gi=2863155 /ug=Rn.6287 /len=476	INTEGRAL MEMBRANE PROTEIN. SARCOPLASMIC AND ENDOPLASMIC RETICULUM	Sarcoplasmic/endoplasmic reticulum calcium ATPase 2 (EC 3.6.3.8)(Calcium pump 2) (SERCA2) (SR Ca(2+)-ATPase 2) (Calcium-transportingATPase)
AA800212	11160	P11507	11151	M23114	11152	P16615	91.03	Ca++ transporting, cardiac muscle, slow twitch 2	rc_AA800212 EST189709 Rattus norvegicus cDNA, 3' end /clone=RHEAM51 /gb=AA800212 /gi=2863167 /ug=Rn.2305 /len=727		
BC002146	11154	AAH02146	11155	XM_006736	XP_006736		91	similar to HSPC180 protein (EST)	rc_AA800268 EST189765 Rattus norvegicus cDNA, 3' end /clone=RHEAN22 /clone_end=3 /gb=AA800268 /gi=2863223 /ug=Rn.3875 /len=569		
AA800318	11156	B26423	11157	M13203	11158	ITTHUC1	81	ESTs, Weakly similar to B26423 serine proteinase inhibitor 2.2 - rat [R.norvegicus]	rc_AA800318 EST189815 Rattus norvegicus cDNA, 3' end /clone=RHEAN84 /clone_end=3 /gb=AA800318 /gi=2863273 /ug=Rn.947 /len=560		

Table 2.

AA8005 03	11160 NP_058 839	11161	XM_01041 7	XP_010 417	47	Homo Sapiens proline-rich Gla (G- carboxyglutam- ic acid) polypeptide 1	rc_AA800503 EST190000 Rattus norvegicus cDNA, 3' end /clone=RLUAB01 /clone_end=3 /gb=AA800503 /gi=2863458 /ug=Rn.6320 /len=492
AA8005 18	11162 No Rat Protein Found.	No human homolog found.	No	No Human Protein Found.		EST(not recognised)	rc_AA800519 EST190016 Rattus norvegicus cDNA, 3' end /clone=RLUAB11 /clone_end=3 /gb=AA800519 /gi=2863474 /ug=Rn.3883 /len=612
AA8005 35	11163 No Rat Protein Found.	AF247703	11164	T47144	11165	ESTs, Weakly similar to T47144 hypothetical protein DKFZp761E1 347.1 [H.sapiens]	rc_AA800535 EST190032 Rattus norvegicus cDNA, 3' end /clone=RLUAB20 /clone_end=3 /gb=AA800535 /gi=2863480 /ug=Rn.8573 /len=476
AA8005 72	11168 No Rat Protein Found.	AF041037	11167	O43609	11168	Homo sapiens novel antagonist of FGF signaling (sprouty-1)	rc_AA800572 EST190069 Rattus norvegicus cDNA, 3' end /clone=RLUAB42 /clone_end=3 /gb=AA800572 /gi=2863527 /ug=Rn.22787 /len=473
AA8006 13	11169 P47973	11170	M92843	P26651	11172	Rattus norvegicus gene for TIS11	rc_AA800613 EST190110 Rattus norvegicus cDNA, 3' end /clone=RLUAB70 /clone_end=3 /gb=AA800613 /gi=2863588 /ug=Rn.2454 /len=506
AA8006 39	11173 No Rat Protein Found.	No human homolog found.	No	No Human Protein Found.		EST(not recognised)	rc_AA800639 EST190136 Rattus norvegicus cDNA, 3' end /clone=RLUAB85 /clone_end=3 /gb=AA800639 /gi=2863594 /ug=Rn.6615 /len=583

Table 2.

AA800678	11174	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	rc_AA800678 EST190175 Rattus norvegicus cDNA, 3' end /clone=RLUAK20 /clone_end=3 /gb=AA800678 /gi=2863633 /ug=Rn.8592 /len=452
AA800708	11175	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	rc_AA800708 EST190205 Rattus norvegicus cDNA, 3' end /clone=RLUAK52 /clone_end=3 /gb=AA800708 /gi=2863663 /ug=Rn.3886 /len=641
AA800749	11176	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	rc_AA800749 EST190246 Rattus norvegicus cDNA, 3' end /clone=RLUAL02 /clone_end=3 /gb=AA800749 /gi=2863704 /ug=Rn.1897 /len=637
AA800772	11177	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	rc_AA800772 EST190269 Rattus norvegicus cDNA, 3' end /clone=RLUAL27 /clone_end=3 /gb=AA800772 /gi=2863727 /ug=Rn.6639 /len=600
AA800790	11178	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	rc_AA800790 EST190287 Rattus norvegicus cDNA, 3' end /clone=RLUAL48 /clone_end=3 /gb=AA800790 /gi=2863745 /ug=Rn.23464 /len=528
AA800895	11179	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	rc_AA800895 EST190382 Rattus norvegicus cDNA, 3' end /clone=RLUAM63 /clone_end=3 /gb=AA800895 /gi=2863840 /ug=Rn.6680 /len=422
AA800912	11180	No Rat Protein Found.	AF118270	Q9UHL9	11181	91.44 Muscle TFI-I repeat domain-containing protein 1	rc_AA800912 EST190409 Rattus norvegicus cDNA, 3' end /clone=RLUAN02 /clone_end=3 /gb=AA800912 /gi=2863867 /ug=Rn.6665 /len=423
NM_011602	11183	P26039	AF177198	Q9Y490	11185	90 Tailin	rc_AA800962 EST190459 Rattus norvegicus cDNA, 3' end /clone=RLUAN59 /clone_end=3 /gb=AA800962 /gi=2863917 /ug=Rn.6674 /len=495

Tailin.

Table 2.

AA8178 54	11187	P13635	11188	M13699	11189	P00450	11190	86.44	Ceruloplasmin (ferroxidase)	AA818025	rc_AA817854 UI-R-A0-ae-g-10-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- A0-ae-g-10-O-UI /clone_end=3 /gb=AA817854 /gi=2946779 /ug=Rn.8598 /len=438	IC59 glycoprotein precursor (Membrane attack complex inhibition factor) (MACIF) (MAC- inhibitory protein) (MAC- IP) (Protectin).
NIM_01 2825	11191	P27274	11192	AF052941	11193	NP_000 602	11194	92.06	CD59 antigen	AA818025	rc_AA818025 UI-R-A0-ae-g-08-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-ae- 08-O-UI /clone_end=3 /gb=AA818025 /gi=2887905 /ug=Rn.1231 /len=487	Attached to the membrane by a GPI- anchor.
NIM_02 2538	11195	NP_071 983	11198	D29841	11197	P42285	11198	91.88	Phosphatidate phosphohydroly ase type 2	AA818593	rc_AA818593 UI-R-A0-bc-g-01-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- A0-bc-g-01-O-UI /clone_end=3 /gb=AA818593 /gi=2889332 /ug=Rn.1944 /len=475	
AA8193 38	11189	Q07984	11200	Z69043	11201	P51571	11202	87.92	Signal sequence receptor, delta		rc_AA819338 UI-R-A0-bc-c-12-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- A0-bc-c-12-O-UI /clone_end=3 /gb=AA819338 /gi=2889427 /ug=Rn.1999 /len=544	Type I membrane protein. Endoplasmic reticulum.
AF2810 18	11203	AAF812 65	11204	X76771	11205	P39748	11206	89.69	Flag structure- specific endonuclease	AA819793	rc_AA819793 UI-R-A0-aq-f-03-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-aq-f- 03-O-UI /clone_end=3 /gb=AA819793 /gi=2888880 /ug=Rn.16664 /len=522	Translocon- associated protein, delta subunit precursor (TRAP- delta)(Signal sequence receptor delta subunit) (SSR- delta).

Table 2.

AA8496 48	11207	P20280	11208	X04790	11209	P10398	11210	92.86	Ribosomal protein L21	AA859529	rc_AA849848 EST192415 Rattus norvegicus cDNA, 3' end /clone=RMUJAH28 /clone_end=3 /gb=AA849848 /gi=2937188 /ug=Rn.2554 /len=413	60S ribosomal protein L21.
AA8585 71	11211	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA858571 UI-R-E0-bq-4-03-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-bq-4- 03-Q-UI /clone_end=3 /gb=AA858571 /gi=2948911 /ug=Rn.82 /len=357	
AA8586 00	11212	No Rat Protein Found.		D38496	11213	I5438	11214	98	ESTs, Highly similar to I54388 LZTR- 1 [H.sapiens]		rc_AA858600 UI-R-E0-bq-h-10-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-bq-h-10-Q-UI /clone_end=3 /gb=AA858600 /gi=2948940 /ug=Rn.21404 /len=559	
AF2961 31	11215	Q9ERM 3	11216	BI521353	11217	XP_035 370	11218	89.11	Diacylglycerol acyltransferas e	AA859529	rc_AA859529 UI-R-E0-br-b-12-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-br-b- 12-Q-UI /clone_end=3 /gb=AA859529 /gi=2848049 /ug=Rn.252 /len=431	Integral membrane proteins. Endoplasmic reticulum .
AA8595 45	11219	No Rat Protein Found.		AK001787	11220	No Human Protein Found.	11221	89.44	EST(not recognised)		rc_AA859545 UI-R-E0-br-d-06-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-br-d- 06-Q-UI /clone_end=3 /gb=AA859545 /gi=2849065 /ug=Rn.261 /len=512	
AA8596 52	11222	No Rat Protein Found.		AI658971	11223	No Human Protein Found.		82.61	EST(not recognised)		rc_AA859652 UI-R-E0-be-b-08-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-be-b-08-Q-UI /clone_end=3 /gb=AA859652 /gi=2948172 /ug=Rn.35 /len=529	
AA8598 90	11224	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA859880 UI-R-E0-bx-e-11-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R- E0-bx-e-11-Q-UI /clone_end=3 /gb=AA859880 /gi=2949210 /ug=Rn.51 /len=419	

Table 2.

AB0245 66	11225	BAA892 48	11228	XM_01769 8	11227	XP_017 698	11228	84	Heparan sulfate 6- sulfotransfera se 1	AA859740	rc_AA859740 UI-R-E0-bx-b-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-bx-b-08-Q-UI /clone_end=3 /gb=AA859740 /gi=2849280 /ug=Rn.22828 /len=418
AA8598 04	11229	No Rat Protein Found.		BC005392	11230	JQ1037	11231	95.17	ESTs, Highly similar to SAP3 GANGLIOSID E GM2 ACTIVATOR PRECURSOR [M.musculus]		rc_AA859804 UI-R-E0-bu-h-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-bu-h-07-Q-UI /clone_end=3 /gb=AA859804 /gi=2849324 /ug=Rn.769 /len=455
AA8598 27	11232	BAA830 85	11233	BF745219	11234	P04155	11235	93.27	Uridine- cytidine kinase 2		rc_AA859827 UI-R-E0-cc-f-10-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cc-f- 10-Q-UI /clone_end=3 /gb=AA859827 /gi=2849347 /ug=Rn.24811 /len=500
AA8598 37	11238	P36577	11237	NM_0042 93	11238	Q8Y2T3	11239	87.87	Guanine deaminase		rc_AA859837 UI-R-E0-cc-g-09-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cc-g-09-Q-UI /clone_end=3 /gb=AA859837 /gi=2849367 /ug=Rn.24783 /len=486
AA8598 98	11240	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA859898 UI-R-E0-cg-a-02-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cg-a-02-Q-UI /clone_end=3 /gb=AA859898 /gi=2849418 /ug=Rn.809 /len=503
AA8598 99	11241	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA859899 UI-R-E0-cg-a-03-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cg-a-03-Q-UI /clone_end=3 /gb=AA859899 /gi=2849419 /ug=Rn.810 /len=353
AA8599 09	11242	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA859909 UI-R-E0-cg-b-02-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cg-b-02-Q-UI /clone_end=3 /gb=AA859909 /gi=2849429 /ug=Rn.815 /len=531

Arrestin-D  
(Fragment).



Table 2.

AA8599 11	11243	Q11205	11244	X98667	11245	JC5251	11246	87.89	Sialyltransferase 5	AA860010	rc_AA860010 UI-R-E0-ca-o-07-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ca-o-07-Q-UI /clone_end=3 /gb=AA860010 /gi=2949431 /ug=Rn.24851 /len=447	TYPE II MEMBRANE PROTEIN. MEMBRANE BOUND FORM IN TRANS CISTERNAE OF GOLGI, SOLUBLE FORM IN BODY FLUIDS.	CMP-N- acetylneuraminase-beta- galactosidase- alpha-2,3- sialyltransferase (EC 2.4.99.-) (Beta- galactosidase- alpha-2,3- sialyltransferase ) (Alpha2,3-ST) (GalNAc6S) (Gal-beta-1,3- GalNAc-alpha- 2,3-sialyltransf
BC0114 90	11247	AAH11 490	11248	NM_0007 42	11249	Q15822	11250	77	Similar to cholinergic receptor, nicotinic, alpha polypeptide 2 (neuronal)		rc_AA860015 UI-R-E0-ca-o-12-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ca-o-12-Q-UI /clone_end=3 /gb=AA860015 /gi=2949635 /ug=Rn.857 /len=590		
AA8800 15	11251	No Rat Protein Found.	F34867		11252	XP_002 616		95.2	ESTs, Weekly similar to T50807 hypothetical protein DKFZp434110 16.1 [H.sapiens]				

Table 2.

Y17793	11253	CAA76 850	11254	AF040980	11255	AAC395 75	11256	87	Mus musculus mRNA for Dut1 protein (strong homology to Roundabout 1)	AA860017	rc_AA860017 UI-R-E0-ca-d-02-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ca-d-02-Q-UI /clone_end=3 /gb=AA860017 /gi=2949537 /ug=Rn.876 /len=528	
AA8600 39	11257	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)	rc_AA860039 UI-R-E0-bz-f-06-Q-UI.s2 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bz-f- 06-Q-UI /clone_end=3 /gb=AA860039 /gi=2949559 /ug=Rn.888 /len=341		
NM_01 7158	11258	P05179	11259	NM_0007 69	11260	P33261	11261	72	Cytochrome P450 mRNA (8, 29, 48, 49, 50 on d.s.)	AA868240	rc_AA868240 UI-R-A0-bg-g-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A0-bg-g-05-Q-UI /clone_end=3 /gb=AA868240 /gi=2981688 /ug=Rn.3010 /len=291	Membrane- bound. Endoplasmic reticulum.
AA8662 76	11262	A60543		AK027693	11263	Q86S97	11264	94.64	ESTs, Weakly similar to A60543 protein kinase [R.norvegicus]	rc_AA868276 UI-R-A0-bg-b-08-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- A0-bg-b-08-Q-UI /clone_end=3 /gb=AA868276 /gi=2981737 /ug=Rn.3035 /len=476	Cytochrome P450 2C7 (EC 1.14.14.1) (CYP11C7) (P450F) (PTF1).	
AA8664 26	11265	No Rat Protein Found.		AA937337	11266	No Human Protein Found.		92.41	EST(not recognised)	rc_AA866428 UI-R-E0-ch-d-05-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ch-d-05-Q-UI /clone_end=3 /gb=AA866428 /gi=2981887 /ug=Rn.3101 /len=502		
AA8664 39	11267	No Rat Protein Found.		AK057056	11268	No Human Protein Found.		91.07	EST(not recognised)	rc_AA866439 UI-R-E0-ch-g-02-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- EO-ch-g-02-Q-UI /clone_end=3 /gb=AA866439 /gi=2981900 /ug=Rn.3109 /len=248		

Table 2.

AF121217	11269	P02466	11270	D21235	11271	P54725	11272	95.37	Pro-alpha 2(I) collagen (COL1A2)	AA868454	rc_AA868454 UI-R-E0-br-e-07-Q-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-br-e-07-Q-JI /clone_end=3 /gb=AA868454 /gi=2881915 /ug=Rn.3115 /len=516	Collagen alpha 2(I) chain precursor.
AA874803	11273	No Rat Protein Found.		NC_001807		NP_008352		89	ESTs, Moderately similar to O808162L protein URF5 [M.musculus]		rc_AA874803 UI-R-E0-bw-g-08-Q-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bw-g-08-Q-JI /clone_end=3 /gb=AA874803 /gi=2878751 /ug=Rn.3130 /len=524	
AA874809	11274	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA874809 UI-R-E0-bw-h-02-Q-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-bw-h-02-Q-JI /clone_end=3 /gb=AA874809 /gi=2878757 /ug=Rn.24363 /len=528	
AA874856	11275	No Rat Protein Found.		AK000970	11276	T00268		90.32	ESTs, Highly similar to T00268 hypothetical protein KIAA0597 [H.sepiens]		rc_AA874856 UI-R-E0-cg-h-11-Q-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cg-h-11-Q-JI /clone_end=3 /gb=AA874856 /gi=2878804 /ug=Rn.3146 /len=548	
AA874875	11277	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA874875 UI-R-E0-cl-e-07-Q-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-cl-e-07-Q-JI /clone_end=3 /gb=AA874875 /gi=2879823 /ug=Rn.21411 /len=456	
AA874912	11278	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA874912 UI-R-E0-ck-f-12-Q-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ck-f-12-Q-JI /clone_end=3 /gb=AA874912 /gi=2879860 /ug=Rn.3309 /len=515	
AA874927	11279	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST(not recognised)		rc_AA874927 UI-R-E0-ck-h-07-Q-JI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ck-h-07-Q-JI /clone_end=3 /gb=AA874927 /gi=2878875 /ug=Rn.3178 /len=475	



Table 2.

AA8751 71	11298	No Rat Protein Found.	NIM_0325 20	11297	NP_115 909	11298	64	ESTs, Weakly similar to T45062 hypothetical protein c316G12.3 [H.sapiens]	rc_AA875171 UI-R-E0-c8-f-12-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-c8-f- 12-O-UI /clone_end=3 /gb=AA875171 /gl=2980119 /ug=Rn.2814 /len=458
AA8752 05	11299	No Rat Protein Found.	BC007892	11300	P55884	11301	93.48	ESTs, Highly similar to EUKARYOTIC TRANSLATION INITIATION FACTOR 3 SUBUNIT 9 [H.sapiens]	rc_AA875205 UI-R-E0-cu-d-11-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cu-d-11-O-UI /clone_end=3 /gb=AA875205 /gl=2980153 /ug=Rn.2829 /len=542
AA8752 63	11302	No Rat Protein Found.	AF015308	11303	g320196 4	11304	90.45	ESTs, Highly similar to cell cycle- regulated factor p78 [H.sapiens]	rc_AA875283 UI-R-E0-c8-a-08-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-c8-a-08-O-UI /clone_end=3 /gb=AA875283 /gl=2980211 /ug=Rn.2727 /len=452
AA8752 75	11305	No Rat Protein Found.	AA761673	11306	No Human Protein Found.		87.5	EST(not recognised)	rc_AA875275 UI-R-E0-c8-c-01-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-c8-c-01-O-UI /clone_end=3 /gb=AA875275 /gl=2980223 /ug=Rn.24936 /len=535
AA8752 88	11307	No Rat Protein Found.	AI807080	11308	No Human Protein Found.		89.79	EST(not recognised)	rc_AA875288 UI-R-E0-c8-d-10-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-c8-d-10-O-UI /clone_end=3 /gb=AA875288 /gl=2980238 /ug=Rn.2791 /len=480
AA8753 16	11309	No Rat Protein Found.	AI267376	11310	No Human Protein Found.		81.34	EST(not recognised)	rc_AA875316 UI-R-E0-c7-g-04-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-c7-g-04-O-UI /clone_end=3 /gb=AA875316 /gl=2980284 /ug=Rn.2877 /len=450

Table 2.

AA8753 48	11311	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA875348 UI-R-E0-co-b-08-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-co-b-08-O-UI /clone_end=3 /gb=AA875348 /gi=2880288 /ug=Rn.2887 /len=465
AA8755 11	11312	No Rat Protein Found.		BF980184	11313	No Human Protein Found.		93.27 EST(not recognised)		rc_AA875511 UI-R-E0-ct-c-10-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R-E0-ct-c- 10-O-UI /clone_end=3 /gb=AA875511 /gi=2880469 /ug=Rn.2840 /len=376
AA8755 59	11314	No Rat Protein Found.		AL117499	11315	No Human Protein Found.		98.98 EST (RIKEN cDNA)		rc_AA875559 UI-R-E0-cm-b-02-Q-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cm-b-02-Q-UI /clone_end=3 /gb=AA875559 /gi=2980507 /ug=Rn.2370 /len=465
X77209	11316	CAA54 424	11317	XM_00418 7		XP_004 187		88 Heat shock protein 70	AA875620	rc_AA875620 UI-R-E0-cv-d-12-O-UI.s1 Rattus norvegicus cDNA, 3 end /clone=UI-R- E0-cv-d-12-O-UI /clone_end=3 /gb=AA875620 /gi=2980568 /ug=Rn.2978 /len=387
AA8913 11	11318	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA891311 EST195114 Rattus norvegicus cDNA, 3 end /clone=RHEAS32 /clone_end=3 /gb=AA891311 /gi=3018190 /ug=Rn.7739 /len=453
AA8913 14	11319	No Rat Protein Found.		AF176330	11320	P57723	11321	87 alphaCP-4 (PCBP4)		rc_AA891314 EST195117 Rattus norvegicus cDNA, 3 end /clone=RHEAS38 /clone_end=3 /gb=AA891314 /gi=3018193 /ug=Rn.2683 /len=442
AA8915 78	11322	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA891578 EST195381 Rattus norvegicus cDNA, 3 end /clone=RKIAE19 /clone_end=3 /gb=AA891578 /gi=3018457 /ug=Rn.19837 /len=410
AA8915 80	11323	No Rat Protein Found.		No human homolog found.		No Human Protein Found.		EST(not recognised)		rc_AA891580 EST195383 Rattus norvegicus cDNA, 3 end /clone=RKIAE21 /clone_end=3 /gb=AA891580 /gi=3018469 /ug=Rn.22698 /len=488

Table 2.

AF2623 20	11324	Q8JIM5 3	11325	AV651040	11326	XP_029 519	92.48	AA891591	rc_AA891591 EST195394 Rattus norvegicus cDNA, 3' end /clone=RKIAE33 /clone_end=3 /gb=AA891591 /gi=3018470 /ug=Rn.8124 /len=398	Mitochondrial intermembrane space. TRANSLOCATED TO THE NUCLEUS UPON INDUCTION OF APOPTOSIS	Programmed cell death protein 8, mitochondrial precursor (EC 1. --)(Apoptosis- inducing factor).
NM_01 3006	11327	NP_037 136	11328	BE018412	11329	NP_006 321	92.42	AA891633	rc_AA891633 EST195436 Rattus norvegicus cDNA, 3' end /clone=RKIAE86 /clone_end=3 /gb=AA891633 /gi=3018512 /ug=Rn.14899 /len=214		
AA8917 13	11331	P35427	11332	AA093491	11333	P52780	90.32	AA891713	rc_AA891713 EST195516 Rattus norvegicus cDNA, 3' end /clone=RKIAF86 /clone_end=3 /gb=AA891713 /gi=3018592 /ug=Rn.3567 /len=450		60S ribosomal protein L13a.
NM_03 1777	11335	NP_113 865	11336	X55666	11337	P22415	86	AA891717	rc_AA891717 EST195520 Rattus norvegicus cDNA, 3' end /clone=RKIAF90 /clone_end=3 /gb=AA891717 /gi=3018596 /ug=Rn.10845 /len=435		
AA8918 02	11339	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			rc_AA891802 EST195605 Rattus norvegicus cDNA, 3' end /clone=RKIAH01 /clone_end=3 /gb=AA891802 /gi=3018681 /ug=Rn.8316 /len=648		

Table 2.

AA8918 21	11340	No Rat Protein Found.	AF070638	11341	AAH013 93	11342	92.79	EST (human hypothetical protein, clone MGC:782 IMAGE:30513 97)	rc_AA891821 EST195824 Rattus norvegicus cDNA, 3' end /clone=RKIAH25 /clone_end=3 /gb=AA891821 /gi=3018700 /ug=Rn.8111 /len=648		
AA8918 39	11343	No Rat Protein Found.	No human homolog found.	No	Human Protein Found.	11346	89.52	EST (RIKEN cDNA)	rc_AA891839 EST195842 Rattus norvegicus cDNA, 3' end /clone=RKIAH45 /clone_end=3 /gb=AA891839 /gi=3018718 /ug=Rn.1787 /len=620		
AA8918 42	11344	No Rat Protein Found.	BC005192	11345	AAF642 74	11346	89.52	BM-018	rc_AA891842 EST195845 Rattus norvegicus cDNA, 3' end /clone=RKIAH53 /clone_end=3 /gb=AA891842 /gi=3018721 /ug=Rn.14714 /len=591		
Z49204	11347	Q61941	11348	11349	Q13423	11350	86	ESTs, Highly similar to NAD(P) TRANSHYDR OGENASE, MITOCHOND RIAL PRECURSOR [M.musculus]	rc_AA891872 EST195675 Rattus norvegicus cDNA, 3' end /clone=RKIAH93 /clone_end=3 /gb=AA891872 /gi=3018751 /ug=Rn.3128 /len=614	OUTSIDE THE MITOCHON DRIAL INNER MEMBRANE ON THE MATRIX SIDE .	NAD(P) transhydrogena se, mitochondrial precursor (EC 1.6.1.2)(Pyridine nucleotide transhydrogena se) (Nicotinamide nucleotidetransh hydrogenase).
AA8919 11	11351	Q63532	11352		g685073		85.85	Small proline- rich protein gene	rc_AA891911 EST195714 Rattus norvegicus cDNA, 3' end /clone=RKIAI48 /clone_end=3 /gb=AA891911 /gi=3018780 /ug=Rn.14720 /len=383		
AY0260 68	11353	AAK117 17	11354	11355	P06749	11356	94.72	ESTs, Highly similar to TRANSFORM ING PROTEIN RHOC [M.musculus]	rc_AA891940 EST195743 Rattus norvegicus cDNA, 3' end /clone=RKIAI82 /clone_end=3 /gb=AA891940 /gi=3018819 /ug=Rn.3508 /len=523		



Table 2.

BC005419	11357	AAH05419	11358	No Human Protein Found.				AA891944	rc_AA891944 EST195747 Rattus norvegicus cDNA, 3' end /clone=RKIA87 /clone_end=3 /gb=AA891944 /gl=3018823 /ug=Rn.8128 /len=605
AA891962	11359	No Rat Protein Found.		No human homolog found.					rc_AA891962 EST195765 Rattus norvegicus cDNA, 3' end /clone=RKIAK10 /clone_end=3 /gb=AA891962 /gl=3018641 /ug=Rn.14723 /len=244
AA892083	11360	No Rat Protein Found.		No human homolog found.					rc_AA892083 EST195886 Rattus norvegicus cDNA, 3' end /clone=RKIAM16 /clone_end=3 /gb=AA892083 /gl=3018862 /ug=Rn.8130 /len=489
AA892132	11361	No Rat Protein Found.		NM_018467	11362	AAH08455	87.59		rc_AA892132 EST195935 Rattus norvegicus cDNA, 3' end /clone=RKIAM73 /clone_end=3 /gb=AA892132 /gl=3019011 /ug=Rn.2857 /len=480
AA892149	11364	No Rat Protein Found.		No human homolog found.					rc_AA892149 EST195952 Rattus norvegicus cDNA, 3' end /clone=RKIAM93 /clone_end=3 /gb=AA892149 /gl=3019028 /ug=Rn.22240 /len=486
AA892154	11365	NP_037292	11366	NM_006454	11367	Q14582	50		rc_AA892154 EST195957 Rattus norvegicus cDNA, 3' end /clone=RKIAN02 /clone_end=3 /gb=AA892154 /gl=3019033 /ug=Rn.3279 /len=386
AA892257	11369	No Rat Protein Found.		No human homolog found.					rc_AA892257 EST196060 Rattus norvegicus cDNA, 3' end /clone=RKIAO27 /clone_end=3 /gb=AA892257 /gl=3019136 /ug=Rn.22718 /len=604

Table 2.

NM_01 2591	11370	P23570	11371	X14454	11372	P10914	11373	86.81	ESTs, Highly similar to INTERFERON CONSENSUS SEQUENCE BINDING PROTEIN [M.musculus]	AA892259	rc_AA892259 EST196062 Rattus norvegicus cDNA, 3' end /clone=RKIAO29 /clone_end=3 /gb=AA892259 /gi=3019138 /ug=Rn.3765 /len=625	Nuclear.	Interferon regulatory factor 1 (IRF-1).
AA8922 71	11374	No Rat Protein Found.		No human homolog found.		No Human Protein Found.					rc_AA892271 EST196074 Rattus norvegicus cDNA, 3' end /clone=RKIAO45 /clone_end=3 /gb=AA892271 /gi=3019150 /ug=Rn.3767 /len=665		
AA8922 73	11375	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognised)	AA892287	rc_AA892273 EST196076 Rattus norvegicus cDNA, 3' end /clone=RKIAO47 /clone_end=3 /gb=AA892273 /gi=3019152 /ug=Rn.19641 /len=529		
AF3211 30	11376	AAK111 89	11377	U31814	11378	Q92769	11379	92.12	Histone deacetylase 2		rc_AA892297 EST196100 Rattus norvegicus cDNA, 3' end /clone=RKIAO73 /clone_end=3 /gb=AA892297 /gi=3019176 /ug=Rn.1797 /len=640		
AA8922 98	11380	CSRTA	11381	AF251049	11382	S64705	11383	95.29	ESTs, Weakly similar to PEPTIDYL- PROLYL CIS- TRANS ISOMERASE A [R.norvegicus]		rc_AA892298 EST196101 Rattus norvegicus cDNA, 3' end /clone=RKIAO74 /clone_end=3 /gb=AA892298 /gi=3019177 /ug=Rn.14747 /len=601		
AA8922 99	11384	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			EST (not recognised)		rc_AA892289 EST196102 Rattus norvegicus cDNA, 3' end /clone=RKIAO75 /clone_end=3 /gb=AA892289 /gi=3019178 /ug=Rn.1708 /len=665		
AF3298 27	11385	AAK321 42	11386	BC012596	11387	O15509	11388	88.62	Zyxin	AA892332	rc_AA892332 EST196135 Rattus norvegicus cDNA, 3' end /clone=RKJAP18 /clone_end=3 /gb=AA892332 /gi=3019211 /ug=Rn.14750 /len=191		

Table 2.

AA8923 90	11389	O54902	11390	AB004857	11391	P49281	11392	89.74	Solute carrier family 11 member 2 (natural resistance- associated macrophage protein 2)	rc_AA892390 EST196193 Rattus norvegicus cDNA, 3' end /clone=RKIAP93 /clone_end=3 /gb=AA892390 /gi=3019269 /ug=Rn.3557 /len=501	Integral membrane protein .	Natural resistance- associated macrophage protein 2 (NRAMP 2) (Metalion transporter DCT1).
AA8923 94	11393	No Rat Protein Found.	11396	AK057016	11394	No Human Protein Found.	11398	100	EST(not recognised)	rc_AA892394 EST196197 Rattus norvegicus cDNA, 3' end /clone=RKIAP90 /clone_end=3 /gb=AA892394 /gi=3019273 /ug=Rn.4183 /len=609		
AA8924 14	11395	AAF143 45	11396	AF047033	11397	AAD383 22	11398	85	Sodium bicarbonate cotransporter 3 (SLC4A7)	rc_AA892414 EST196217 Rattus norvegicus cDNA, 3' end /clone=RKIAQ16 /clone_end=3 /gb=AA892414 /gi=3019293 /ug=Rn.25345 /len=448		
AA8924 86	11399	A36690	11403	Y00839	11400	A32609	11401	79	ESTs, Weakly similar to A36690 sucrose alpha- glucosidase [R.norvegicus]	rc_AA892486 EST196289 Rattus norvegicus cDNA, 3' end /clone=RKIAS04 /clone_end=3 /gb=AA892486 /gi=3019365 /ug=Rn.1112 /len=555		
NIM_01 9793	11402	Q8QY3 3	11403	AAF08362		O60637	11404	94	Mus musculus transmembran e 4 superfamily member 8	rc_AA892498 EST196301 Rattus norvegicus cDNA, 3' end /clone=RKIAS19 /clone_end=3 /gb=AA892498 /gi=3019377 /ug=Rn.998 /len=617	Integral membrane protein .	Transmembrane 4 superfamily, member 8 (Tetraspanin 3) (Tetraspan- 3)(Tetraspanin TM4-A) (OSP- associated protein-1) (OAP- 1).

Table 2.

AA8925 20	11405	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST(not recognised)	rc_AA892520 EST196323 Rattus norvegicus cDNA, 3' end /clone=RKIAS43 /clone_end=3 /gb=AA892520 /gi=3019399 /ug=Rn.9118 /len=547		
AA8925 31	11406	B39066		AL136746	11407	PIHUB6	94.78	ESTs, Weakly similar to B39066 proline-rich protein 15 - rat [R.norvegicus]	11408	rc_AA892531 EST196334 Rattus norvegicus cDNA, 3' end /clone=RKIAS55 /clone_end=3 /gb=AA892531 /gi=3019410 /ug=Rn.23788 /len=559
AA8925 48	11409	P02551	11410	X01703	11411	A23035	100	Alpha-tubulin (26 on d.s.)		rc_AA892548 EST196351 Rattus norvegicus cDNA, 3' end /clone=RKIAS73 /clone_end=3 /gb=AA892548 /gi=3019427 /ug=Rn.14764 /len=618
AA8925 50	11412	No Rat Protein Found.		AK024048	11413	No Human Protein Found.	92.96	EST(not recognised)	11414	rc_AA892550 EST196353 Rattus norvegicus cDNA, 3' end /clone=RKIAS75 /clone_end=3 /gb=AA892550 /gi=3019429 /ug=Rn.4284 /len=566
AA8927 59	11415	1SFC		Y09568	11416	O00161	90.64	Synaptosomal- associated protein, 23 kD	11417	rc_AA892759 EST196562 Rattus norvegicus cDNA, 3' end /clone=RKIAW89 /clone_end=3 /gb=AA892759 /gi=3019638 /ug=Rn.14789 /len=487
AA8927 74	11418	No Rat Protein Found.		No human homolog found.	No Human Protein Found.		EST(not recognised)	rc_AA892774 EST196577 Rattus norvegicus cDNA, 3' end /clone=RKIA17 /clone_end=3 /gb=AA892774 /gi=3019653 /ug=Rn.14792 /len=635		
NM_01 2771	11419	NP_036 903	11420	NM_0002 39	11421	P00695	66	Lysozyme	11422	rc_AA892775 EST196578 Rattus norvegicus cDNA, 3' end /clone=RKIA18 /clone_end=3 /gb=AA892775 /gi=3019654 /ug=Rn.2283 /len=711
AA8928 01	11423	P05197	11424	M19997	11425	P13639	99	Eukaryotic translation elongation factor 2	11426	rc_AA892801 EST196604 Rattus norvegicus cDNA, 3' end /clone=RKIA44 /clone_end=3 /gb=AA892801 /gi=3019680 /ug=Rn.3610 /len=528

Cytoplasmic.

Elongation  
factor 2 (EF-2).Tubulin alpha-1  
chain.

Table 2.

AA8928 18	11427	No Rat Protein Found.	No human homolog found.	11429	No Human Protein Found.	11430	58	ESTs, Weakly similar to S70642 ubiquitin ligase Nedd4 - rat [R.norvegicus]	rc_AA892818 EST196621 Rattus norvegicus cDNA, 3' end /clone=RK1AX63 /clone_end=3 /gb=AA892818 /gi=3019697 /ug=Rn.14795 /len=543
AA8928 20	11428	S70642	AB007899	11429	BAA237 11	11430	58	ESTs, Weakly similar to S70642 ubiquitin ligase Nedd4 - rat [R.norvegicus]	rc_AA892820 EST196623 Rattus norvegicus cDNA, 3' end /clone=RK1AX65 /clone_end=3 /gb=AA892820 /gi=3019699 /ug=Rn.1761 /len=590
AA8928 35	11431	No Rat Protein Found.	AK027582	11432	JC1235	11435	93.82	ESTs, Moderately similar to TRANSCRIPT ION FACTOR BTF3 [M.musculus]	rc_AA892835 EST196638 Rattus norvegicus cDNA, 3' end /clone=RK1AX82 /clone_end=3 /gb=AA892835 /gi=3019714 /ug=Rn.3613 /len=570
AA8928 54	11433	No Rat Protein Found.	AF044197	11434	O43927	11435	40	ESTs, Weakly similar to B LYMPHOCYT E CHEMOATTR ACTANT PRECURSOR [M.musculus]	rc_AA892854 EST196657 Rattus norvegicus cDNA, 3' end /clone=RK1AY12 /clone_end=3 /gb=AA892854 /gi=3019733 /ug=Rn.6917 /len=591
AA8928 68	11436	No Rat Protein Found.	No human homolog found.	11439	No Human Protein Found.	11440	93.45	EST(not recognised)	rc_AA892868 EST196671 Rattus norvegicus cDNA, 3' end /clone=RK1AY30 /clone_end=3 /gb=AA892868 /gi=3019747 /ug=Rn.14797 /len=528
AA8928 95	11437	P11174	11438 AA434279	11439	R3HU15	11440	93.45	Ribosomal protein S15	rc_AA892895 EST196698 Rattus norvegicus cDNA, 3' end /clone=RK1AY84 /clone_end=3 /gb=AA892895 /gi=3019774 /ug=Rn.3391 /len=508

40S ribosomal  
protein S15  
(RIG protein).

Table 2.

AA8928 97	11441	2E+06	XM_00284 4	11442	XP_002 844	11443	67	Homo sapiens procollagen- lysine	rc_AA892897 EST196700 Rattus norvegicus cDNA, 3' end /clone=RK1A767 /clone_end=3 /gb=AA892897 /gi=3019776 /ug=Rn.12845 /len=553
AA8929 59	11444	No Rat Protein Found.	AY028508	11445	No Human Protein Found.	11446	87.89	Mus musculus 10 days embryo cDNA, RIKEN	rc_AA892899 EST196762 Rattus norvegicus cDNA, 3' end /clone=RK1BA36 /clone_end=3 /gb=AA892899 /gi=3019838 /ug=Rn.19446 /len=454
AK0181 58	11447	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			RIKEN full- length cDNA mouse	rc_AA892967 EST196770 Rattus norvegicus cDNA, 3' end /clone=RK1BA44 /clone_end=3 /gb=AA892967 /gi=3019848 /ug=Rn.1936 /len=379
BC0038 47	11448	AAH03 847	11449 AB024518	11450	BAA758 92	11451	51	(EST) Similar to glycoengin 2 [Mus musculus]	rc_AA892988 EST196789 Rattus norvegicus cDNA, 3' end /clone=RK1BA73 /clone_end=3 /gb=AA892988 /gi=3019865 /ug=Rn.1927 /len=472
AA8929 93	11452	AAF687 08	11453 XM_04764 1		XP_047 641		73	Mus musculus HMG domain protein HMGX2 (Hmgx2)	rc_AA892993 EST196796 Rattus norvegicus cDNA, 3' end /clone=RK1BA82 /clone_end=3 /gb=AA892993 /gi=3019872 /ug=Rn.12892 /len=496
AA8929 99	11454	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST(not recognised)	rc_AA892999 EST196802 Rattus norvegicus cDNA, 3' end /clone=RK1BA90 /clone_end=3 /gb=AA892999 /gi=3019878 /ug=Rn.13463 /len=465
AA8930 40	11455	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST (not recognized)	rc_AA893040 EST196843 Rattus norvegicus cDNA, 3' end /clone=RK1BB41 /clone_end=3 /gb=AA893040 /gi=3019919 /ug=Rn.13467 /len=414
AA8931 60	11456	No Rat Protein Found.	No human homolog found.		No Human Protein Found.			EST(not recognised)	rc_AA893160 EST196963 Rattus norvegicus cDNA, 3' end /clone=RK1BC91 /clone_end=3 /gb=AA893160 /gi=3020039 /ug=Rn.13480 /len=493

Table 2.

AA8931 63	11457	No Rat Protein Found.	No human homolog found.	S57447	11458	63	ESTs, Weakly similar to S57447 HPBRII-7 protein [H.sapiens]	AA893280	rc_AA893183 EST196986 Rattus norvegicus cDNA, 3' end /clone=RKIBD25 /clone_end=3 /gb=AA893183 /gi=3020062 /ug=Rn.24460 /len=491
NP_031 434		NM_00 7408	NM_0011 22	11459 Q99541	11460	76	ESTs, Moderately similar to ADIPOSE DIFFERENTI- ATION- RELATED PROTEIN [M.musculus]		rc_AA893280 EST197083 Rattus norvegicus cDNA, 3' end /clone=RKIBE43 /clone_end=3 /gb=AA893280 /gi=3020159 /ug=Rn.3182 /len=480
AA8933 20	11461	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			EST(not recognised)		rc_AA893320 EST197123 Rattus norvegicus cDNA, 3' end /clone=RKIBF04 /clone_end=3 /gb=AA893320 /gi=3020199 /ug=Rn.13340 /len=370
AA8933 53	11462	No Rat Protein Found.	No human homolog found.	No Human Protein Found.			ESTs, Weakly similar to T15946 hypothetical protein F01F1.9 [C.elegans]		rc_AA893353 EST197156 Rattus norvegicus cDNA, 3' end /clone=RKIBF40 /clone_end=3 /gb=AA893353 /gi=3020232 /ug=Rn.3051 /len=348
AA8933 57	11463	No Rat Protein Found.	BF980403	11464		92.68	EST(not recognised)		rc_AA893357 EST197160 Rattus norvegicus cDNA, 3' end /clone=RKIBF44 /clone_end=3 /gb=AA893357 /gi=3020238 /ug=Rn.18948 /len=434
AF1690 33	11465	AAF127 56	11466 XM_00849 4	11467 XP_009 494	11468	85	Protein kinase (Sgk2)	AA893436	rc_AA893436 EST197239 Rattus norvegicus cDNA, 3' end /clone=RLIAB44 /clone_end=3 /gb=AA893436 /gi=3020315 /ug=Rn.3685 /len=452

Table 2.

AA8936 41	11469	Q9QXQ 7	11470	AL390088	11471	P41221	11472	89.05	ESTs, Highly similar to WNT-5A PROTEIN PRECURSOR [R.norvegicus]	rc_AA893641 EST197444 Rattus norvegicus cDNA, 3 end /clone=RPLAC90 /clone_end=3 /gb=AA893641 /gi=3020520 /ug=Rn.3689 /len=508
AA8936 62	11473	No Rat Protein Found.	No human homolog found.	No human homolog found.	No Human Protein Found.				EST(not recognised)	rc_AA893682 EST197485 Rattus norvegicus cDNA, 3 end /clone=RPLA116 /clone_end=3 /gb=AA893682 /gi=3020541 /ug=Rn.14817 /len=457
AA8936 91	11474	No Rat Protein Found.	No human homolog found.	No human homolog found.	No Human Protein Found.				EST (not recognised)	rc_AA893691 EST197494 Rattus norvegicus cDNA, 3 end /clone=RPLA148 /clone_end=3 /gb=AA893691 /gi=3020570 /ug=Rn.14822 /len=475
AA8937 33	11475	S40148	M34480	11476	P08514	11477	86.86	ESTs, Weakly similar to S40148 Integrin alpha- 7A chain - rat [R.norvegicus]		rc_AA893733 EST197536 Rattus norvegicus cDNA, 3 end /clone=RPLAK02 /clone_end=3 /gb=AA893733 /gi=3020612 /ug=Rn.14827 /len=400
AA8937 43	11478	No Rat Protein Found.	A1092788	11479	P04541	11480	89.32	EST(not recognised)		rc_AA893743 EST197548 Rattus norvegicus cDNA, 3 end /clone=RPLAK14 /clone_end=3 /gb=AA893743 /gi=3020622 /ug=Rn.8002 /len=520
AK0183 49	11481	Q61686	11482	L07515	11483	P45973	11484	94	ESTs, Highly similar to CBX5 CHROMOBO X PROTEIN HOMOLOG 5 [M.musculus]	rc_AA893788 EST197591 Rattus norvegicus cDNA, 3 end /clone=RPLAK59 /clone_end=3 /gb=AA893788 /gi=3020667 /ug=Rn.18377 /len=440
AK0144 49	11485	BAB293 59	11486	NM_0182 02	11487	NP_060 672	11488	98	RIKEN full- length cDNA (mouse)	rc_AA893811 EST197614 Rattus norvegicus cDNA, 3 end /clone=RPLAK87 /clone_end=3 /gb=AA893811 /gi=3020690 /ug=Rn.14832 /len=464

Chromobox  
protein homolog  
5  
(Heterochromati  
n protein 1  
homolog  
alpha)(HP1  
alpha).

Nuclear .



Table 2.

AA8938 69	11489	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	95	ESTs, Weakly similar to T16084 hypothetical protein F16H11.1 [C.elegans]	rc_AA893869 EST197672 Rattus norvegicus cDNA, 3' end /clone=RPLAM85 /clone_end=3 /gb=AA893869 /gi=3020748 /ug=Rn.14614 /len=451
AA8938 70	11490	No Rat Protein Found.	M11167	11491	No Human Protein Found.	28S ribosomal RNA gene (2 on d.s.)	rc_AA893870 EST197673 Rattus norvegicus cDNA, 3' end /clone=RPLAM86 /clone_end=3 /gb=AA893870 /gi=3020749 /ug=Rn.11229 /len=417
AA8939 80	11492	No Rat Protein Found.	AL050155	11493	No Human Protein Found.	EST(not recognised)	rc_AA893980 EST197783 Rattus norvegicus cDNA, 3' end /clone=RPLAO19 /clone_end=3 /gb=AA893980 /gi=3020869 /ug=Rn.7498 /len=484
AA8939 84	11494	No Rat Protein Found.	NM_0307 78	11495	XP_029 757	Homo Sapiens hypothetical protein PRO1331	rc_AA893984 EST197787 Rattus norvegicus cDNA, 3' end /clone=RPLAO23 /clone_end=3 /gb=AA893984 /gi=3020863 /ug=Rn.21428 /len=443
AA8940 29	11497	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)	EST(not recognised)	rc_AA894029 EST197832 Rattus norvegicus cDNA, 3' end /clone=RPLAO74 /clone_end=3 /gb=AA894029 /gi=3020908 /ug=Rn.13512 /len=498
AA8941 48	11498	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	No Human Protein Found.	Mixed cDNA - Apolipoprotein A-IV / 28S ribosomal RNA	rc_AA894148 EST197851 Rattus norvegicus cDNA, 3' end /clone=RSPAR57 /clone_end=3 /gb=AA894148 /gi=3021027 /ug=Rn.16739 /len=447
AA8941 68	11499	No Rat Protein Found.	D67685	11500	AAF212 92	PHD finger protein 3 (PHF3)	rc_AA894168 EST197971 Rattus norvegicus cDNA, 3' end /clone=RSPAR89 /clone_end=3 /gb=AA894168 /gi=3021047 /ug=Rn.25343 /len=426

Table 2.

AA894199	11502	No Rat Protein Found.	11504	AF079584	11505	O76604	11508	90.59	ESTs, Moderately similar to UBIQUITIN CARBOXYL-TERMINAL HYDROLASE 18 (UBIQUITIN-SPECIFIC PROCESSING PROTEASE 18) [M.musculus]	AA894207	rc_AA894199 EST188002 Rattus norvegicus cDNA, 3' end /clone=RSPAS58 /clone_end=3 /gb=AA894199 /gi=3021078 /ug=Rn.22765 /len=555			
AF202453	11503	AAF17574	11504	AF079584	11505	O76604	11508	90.59	ESTs, Moderately similar to UBIQUITIN CARBOXYL-TERMINAL HYDROLASE 18 (UBIQUITIN-SPECIFIC PROCESSING PROTEASE 18) [M.musculus]	AA894207	rc_AA894207 EST188010 Rattus norvegicus cDNA, 3' end /clone=RSPAS77 /clone_end=3 /gb=AA894207 /gi=3021086 /ug=Rn.806 /len=630			
AA894282	11507	No Rat Protein Found.							EST(not recognised)		rc_AA894282 EST188085 Rattus norvegicus cDNA, 3' end /clone=RSPAU88 /clone_end=3 /gb=AA894282 /gi=3021161 /ug=Rn.3995 /len=552			
AA894292	11508	No Rat Protein Found.							EST(not recognised)		rc_AA894292 EST188095 Rattus norvegicus cDNA, 3' end /clone=RSPAW06 /clone_end=3 /gb=AA894292 /gi=3021171 /ug=Rn.19450 /len=599			
NM_017033	11509	P38652	11510	BC019920	11511	P36871	11512	89.84	phosphoglucose mutase 1	AA894296	rc_AA894296 EST188099 Rattus norvegicus cDNA, 3' end /clone=RSPAW17 /clone_end=3 /gb=AA894296 /gi=3021175 /ug=Rn.3760 /len=600	Cytoplasmic.	Phosphoglucose mutase (EC 5.4.2.2) (Glucose phosphomutase) (PGM).	

Table 2.

AA8943 30	11513	P15791	11514	AF071569	11515	Q13557	11518	92.9	Ca++/calmodulin-dependent protein kinase II, delta subunit (30 on d.s.)	rc_AA894330 EST198133 Rattus norvegicus cDNA, 3' end /clone=RSPA76 /clone_end=3 /gb=AA894330 /gi=3021209 /ug=Rn.122 /len=501	Calcium/calmodulin-dependent protein kinase type II delta chain (EC2.7.1.123) (CaM-kinase II delta chain) (CaM kinase II delta subunit)(CaMK-II delta subunit).
AA8992 53	11517	P30009	11518	AU141403	11519	P50458	11520	97.14	Myristoylated alanine-rich protein kinase C substrate	rc_AA899253 UI-R-E0-cz-g-07-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cz-g-07-Q-UI /clone_end=3 /gb=AA899253 /gi=3034607 /ug=Rn.9560 /len=410	Myristoylated alanine-rich C-kinase substrate (MARCKS).
BC0057 96	11521	P00375	11522	X00855	11523	I37287		91	ESTs, Highly similar to DIHYDROFOLATE REDUCTASE [M.musculus]	rc_AA900413 UI-R-E0-dl-e-12-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-dl-e-12-Q-UI /clone_end=3 /gb=AA900413 /gi=3035787 /ug=Rn.15056 /len=449	Dihydrofolate reductase (EC 1.5.1.3).
AA9249 09	11524	P25094	11525	M94048	11526	Q01453	11527	91.3	Peripheral myelin protein	rc_AA924909 UI-R-A1-eg-b-11-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A1-eg-b-11-Q-UI /clone_end=3 /gb=AA924909 /gi=3072045 /ug=Rn.1476 /len=557	Peripheral myelin protein 22 (PMP-22) (CD25 protein) (SR13 myelinprotein).
NM_03 1560	11528	O35186	11529	X82153	11530	P43235	11531	87.8	Cathepsin K	rc_AA925246 UI-R-A1-eh-h-08-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A1-eh-h-08-Q-UI /clone_end=3 /gb=AA925246 /gi=3072382 /ug=Rn.5598 /len=513	Cathepsin K precursor (EC 3.4.22.38).

Table 2.

AA925506	11532	P43425	11533	BC014466	11534	O60262	11535	87.25	Guanine nucleotide binding protein (G protein), gamma 7 subunit	rc_AA925508 UI-R-A1-ep-d-03-Q-U1.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A1-ep-d-03-Q-U1 /clone_end=3 /gb=AA925508 /gi=3072842 /ug=Rn.11335 /len=415	Guanine nucleotide-binding protein G(I)/G(S)/G(O) gamma-7 subunit.
AA925556	11536	B46132		NM_018274	11537	XP_053147		91.3	ESTs, Highly similar to B46132 c-Jun leucine zipper Interactive [M.musculus]	rc_AA925558 UI-R-A1-em-h-12-Q-U1.s1 UI-R-A1 Rattus norvegicus cDNA clone UI-R-A1-em-h-12-Q-U1 3' similar to gi 423404 pir B46132 c-Jun leucine zipper Interactive (cDNA JZA-20) - mouse (fragment), mRNA sequence [Rattus norvegicus]	
X56600	11538	CAA39937	11539	XM_033941		XP_033941		76	SOD-2 gene for manganese-containing superoxide dismutase	rc_AA926129 UI-R-A1-ep-f-08-Q-U1.s1 UI-R-A1 Rattus norvegicus cDNA clone UI-R-A1-ep-f-08-Q-U1 3' similar to gi 57272 emb X56600 RNSOD2 Rat SOD-2 gene for manganese-containing superoxide dismutase, mRNA sequence [Rattus norvegicus]	
AA926242	11540	P19814	11541	BC008461	11542	O43493	11543	82.29	Trans-Golgi network integral membrane protein TGN38	rc_AA926242 UI-R-A1-ep-d-09-Q-U1.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A1-ep-d-09-Q-U1 /clone_end=3 /gb=AA926242 /gi=3073378 /ug=Rn.11349 /len=394	TRANS-GOLGI NETWORK.
AA943677	11544	g1763308		AK0549817	11545	g2432000	11546	88.82	Munc13-3	rc_AA943677 EST199176 Rattus norvegicus cDNA, 3' end /clone=RBRA48 /clone_end=3 /gb=AA943677 /gi=3103593 /ug=Rn.11278 /len=520	Trans-golgi network integral membrane protein TGN38 precursor.
NM_024152	11547	P26438	11548	M57763	11549	P26438	11550	94.88	ADP-ribosylation factor 6	rc_AA944324 EST199823 Rattus norvegicus cDNA, 3' end /clone=REIMAF41 /clone_end=3 /gb=AA944324 /gi=3104240 /ug=Rn.6893 /len=659	ADP-ribosylation factor 6.

Table 2.

AX17163	11551	CAA35041	11552	XM_001472	11553	XP_001472	11554	78	c-Jun oncogene mRNA for transcription factor AP-1	AA945867	rc_AA945867 EST201366 Rattus norvegicus cDNA, 3' end /clone=RLJAV28 /gb=AA945867 /gl=3105783 /ug=Rn.7672 /len=477	Endoplasmic reticulum.	Alpha-mannosidase (EC 3.2.1.24) (Alpha-D-mannoside mannohydrolase)(AMAN).
AA946384	11555	P21139	11556	BC010081	11557	g6136294	11558	90.2	Endoplasmic reticulum alpha-mannosidase		rc_AA946384 EST201883 Rattus norvegicus cDNA, 3' end /clone=RLUBH49 /gb=AA946384 /gl=3106300 /ug=Rn.11301 /len=576		
AA946439	11559	P02304	11560	NM_003539	11561	P02304	11562	88.28	H4 gene for somatic histone H4		rc_AA946439 EST201938 Rattus norvegicus cDNA, 3' end /clone=ROVAR17 /gb=AA946439 /ug=Rn.10485 /len=863		
NM_021767	11563	Q63373	11564	AF064842	11565	P58400	11566	94.29	Non-processed neurexin I-beta	AA956149	rc_AA956149 UI-R-E1-fg-b-03-Q-UI.s2 Rattus norvegicus cDNA, 3' end /clone=UI-R-E1-fg-b-03-Q-UI /clone_end=3 /gb=AA956149 /ug=Rn.8930 /len=471	Type I membrane protein.	Neurexin I-beta precursor (Neurexin I-beta).
AA956941	11567	Q62655	11568	AK026674	11569	P15884	11570	92.83	Rb DNA-binding protein		rc_AA956941 UI-R-E1-fg-o-10-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E1-fg-o-10-Q-UI /clone_end=3 /gb=AA956941 /ug=Rn.10450 /len=492	Nuclear.	Transcription factor 4 (Immunoglobulin transcription factor 2) (ITF-2)(RITF-2) (SL3-3 enhancer factor 2) (SEF-2) (Fragment).
AA963857	11571	P13265	11572	L47125	11573	P51654	11574	89.19	Glypican 3		rc_AA963857 UI-R-E1-gk-a-07-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E1-gk-a-07-Q-UI /clone_end=3 /gb=AA963857 /ug=Rn.9717 /len=408	Attached to the membrane by a GPI-anchor.	Glypican-3 precursor (Intestinal protein OCI-5).

Table 2.

AI0088 52	11576	P20001	11576	AA076035	11577	P04720	11578	98.36	Eukaryotic translation elongation factor 1 alpha 2		rc_AI008852 EST203303 Rattus norvegicus cDNA, 3' end /clone=REMBE33 /clone_end=3 /gb=AI008852 /ug=Rn.985 /len=531	ANCHORED AT THE ENDOPLAS MIC RETICULUM MEMBRANE BY PHOSPHATI DYLNOSITO L VIA ETHANOLA MINE BRIDGING.	Elongation factor 1-alpha 1 (EF-1-alpha-1). (Elongation factor 1 A- 1)(EF1A-1) (Elongation factor Tu) (EF- Tu).
AI0088 88	11578	P01041	11580	AW45114 5	11581	P04080	11582	89.36	Cystatin beta		rc_AI008888 EST203339 Rattus norvegicus cDNA, 3' end /clone=REMBE86 /clone_end=3 /gb=AI008888 /ug=Rn.1233 /len=528	Cytoplasmic.	Cystatin B (Liver thiol proteinase inhibitor) (Stefin B) (Cystatin beta).
AI0081 47	11583	No Rat Protein Found.	11580	AJ249980	11584	CAB965 37	11585	86	EST (human hypothetical protein)		rc_AI009147 EST203598 Rattus norvegicus cDNA, 3' end /clone=REMBJ52 /clone_end=3 /gb=AI009147 /ug=Rn.221 /len=429		
AI0081 91	11586	PT0189	11590	IM14333	11587	P06241	11588	99	Fyn proto- oncogene		rc_AI009191 EST203642 Rattus norvegicus cDNA, 3' end /clone=REMBK67 /clone_end=3 /gb=AI009191 /ug=Rn.2432 /len=484		
NM_02 2519	11589	P17475	11590	XM_02835 8	11591	XP_028 358	11592	78	Alpha-1- protease inhibitor	AI010453	rc_AI010453 EST204904 Rattus norvegicus cDNA, 3' end /clone=RLUBZ64 /clone_end=3 /gb=AI010453 /ug=Rn.1418 /len=612	Extracellular.	Alpha-1- antiproteinase precursor (Alpha-1- antitrypsin) (Alpha-1- proteinase inhibitor).
L34078	11593	No Rat Protein Found.	11590	No human homolog found.	No	Human Protein Found.	87	87	Mus musculus DNA repair protein (XRCC1) gene	AI010580	rc_AI010580 EST205031 Rattus norvegicus cDNA, 3' end /clone=RMUO68 /clone_end=3 /gb=AI010580 /ug=Rn.13632 /len=377		

Table 2.

AI0122 75	11594	g31010 0	AK026295	11595	g329418 0	85.83	Developmentally regulated protein mRNA	rc_AI012275 EST206726 Rattus norvegicus cDNA, 3' end /clone=RPLAU85 /clone_end=3 /gb=AI012275 /ug=Rn.4098 /len=686	Cytoplasmic.	Serine/threonine protein phosphatase 2A, catalytic subunit, alpha isoform (EC 3.1.3.16) (PP2A-alpha).
AI0125 95	11596	P13353	J03804	11598	P05323	99	Protein phosphatase 2 (formerly 2A), catalytic subunit, alpha isoform	rc_AI012595 EST207048 Rattus norvegicus cDNA, 3' end /clone=RPLAZ38 /clone_end=3 /gb=AI012595 /ug=Rn.1271 /len=641	Cytoplasmic.	Serine/threonine protein phosphatase 2A, catalytic subunit, alpha isoform (EC 3.1.3.16) (PP2A-alpha).
AF3614 76	11600	AAK306 21	U65093	11602	Q89867	96.84	Transcription factor MRG1	rc_AI014091 EST207648 Rattus norvegicus cDNA, 3' end /clone=RSPBE78 /clone_end=3 /gb=AI014091 /ug=Rn.221 /len=608		
BC0032 17	11604	AAH03 217	No human		No Human Protein Found.		ESTs, Weakly similar to CAEEL PUTATIVE PHOSPHATIDYL SERINE DECARBOXYLASE PROENZYME [C.elegans]	rc_AI014094 EST207649 Rattus norvegicus cDNA, 3' end /clone=RSPBE87 /clone_end=3 /gb=AI014094 /ug=Rn.221 /len=568		
AI0700 26	11606	P31246	NM_008735	11608	O43364	95.69	Homeobox gene A11	rc_AI070028 UI-R-C1-in-b-10-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C1-in-b-10-O-UI /clone_end=3 /gb=AI070028 /ug=Rn.11240 /len=502	Nuclear.	Homeobox protein Hox-A2 (Hox-1.11).
AI0709 67	11610	P49911	X75090	11612	P39687	88	Acid nuclear phosphoprotein 32 (leucine rich)	rc_AI070967 UI-R-C2-na-d-08-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C2-na-d-08-Q-UI /clone_end=3 /gb=AI070967 /ug=Rn.10123 /len=448	Nuclear.	Leucine-rich acidic nuclear protein.

Table 2.

AI071299	11614	O08876	11615	S81439	11616	Q13118	11617	87.11	TGFB Inducible early growth response	rc_AI071289 UI-R-C1-ko-d-03-0-UI.s2 Rattus norvegicus cDNA, 3 and /clone=UI-R-C1-ko-d-03-0-UI /clone_end=3 /gb=AI071289 /ug=Rn.2398 /len=485	Nuclear .	Transforming growth factor-beta-Inducible early growth responseprotein 1 (TGFB-Inducible early growth response protein 1) (TIEG-1)(Kruppel-like factor 10) (Zinc finger transcription factor homologCPG
AI073204	11618	P42655	11619	BC000179	11620	P42655	11621	99.41	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activationprotein, epsilon polypeptide	rc_AI073204 UI-R-YO-ix-a-08-0-UI.s1 Rattus norvegicus cDNA, 3 and /clone=UI-R-YO-ix-a-08-0-UI /clone_end=3 /gb=AI073204 /ug=Rn.4225 /len=356	Cytoplasmic.	14-3-3 protein epsilon (Mitochondrial import stimulation factor Lsubunit) (Protein kinase C inhibitor protein-1) (KCIP-1) (14-3-3E).
AI102031	11622	O08839	11623	U68485	11624	Q98888	11625	93.72	Amphiphysin, amph2 (22 on d.s.)	rc_AI102031 EST211320 Rattus norvegicus cDNA, 3 and /clone=RBRBY15 /clone_end=3 /gb=AI102031 /gl=3708866 /ug=Rn.17098 /len=583	Nuclear and cytoplasmic .	Myc box dependent interacting protein 1 (Bridging integrator 1)(Amphiphysin-like protein) (Amphiphysin II).



Table 2.

AI1025 62	11626	P02803	11627	BG260238	11628	SMHU1 E	93.1	Metallothionein-1 (mt-1)		rc_AI102562 EST211851 Rattus norvegicus cDNA, 3' end /clone=REMBP28 /clone_end=3 /gb=AI102562 /gi=3707306 /ug=Rn.2714 /len=405	Metallothionein-1 (MT-1).
AI1045 44	11629	P04844	11630	BG498827	11631	R4HU17	90.56	Ribosomal protein S17		rc_AI104544 EST213833 Rattus norvegicus cDNA, 3' end /clone=RHECE89 /clone_end=3 /gb=AI104544 /gi=3708885 /ug=Rn.8920 /len=476	40S ribosomal protein S17.
AI1368 91	11633	P17431	11634	AI902540	11635	O00411	97.14	Butyrate response factor 1	Nuclear.	rc_AI136891 UI-R-C2p- $\alpha$ -12-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C2p-of- f-12-O-UI /clone_end=3 /gb=AI136891 /ug=Rn.8142 /len=449	Butyrate response factor 1 (TIS11B protein) (EGF- inducible proteinCMG1).
NM_03 1576	11637	P00388	11638	BF001401	11639	Q13571	91.01	P450 (cytochrome) oxidoreductase		rc_AI137858 UI-R-CO-ik- $\alpha$ -10-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-CO-ik- $\alpha$ - 10-O-UI /clone_end=3 /gb=AI137858 /ug=Rn.11359 /len=384	NADPH- cytochrome P450 reductase (EC 1.6.2.4) (CPR) (P450R).
U08179	11641	P30120	11642	XM_033879		XP_033879	76	Tissue inhibitor of metalloproteinase 1 (TIMP1) (4 on d.s.)		rc_AI169327 EST215162 Rattus norvegicus cDNA, 3' end /clone=RKIBQ31 /clone_end=3 /gb=AI169327 /gi=3708635 /ug=Rn.8841 /len=644	Secreted. Secreted. ANCHORED TO THE ER MEMBRANE BY ITS N- TERMINAL HYDROPHOBIC REGION.
AI1703 79	11643	No Rat Protein Found.		AJ303078	11644	QB2D5	89	AKAP-2		rc_AI170379 EST216305 Rattus norvegicus cDNA, 3' end /clone=RLUCH58 /clone_end=3 /gb=AI170379 /gi=3710419 /ug=Rn.15598 /len=688	Metalloproteinase inhibitor 1 precursor (TIMP-1).

Table 2.

AI1710 90	11646	P87519	11647	BC010570	11648	P35914	11649	85.73	3-hydroxy-3- methylglutaryl CoA lyase	AI171562	rc_AI171090 EST217038 Rattus norvegicus cDNA, 3' end /clone=RMUBG03 /clone_end=3 /gb=AI171090 /gi=3711130 /ug=Rn.12297 /len=551	Mitochondrial matrix	Hydroxymethylglu- taryl-CoA lyase, mitochondrial precursor (EC 4.1.3.4)(HMG- CoA lyase) (HL) (3-hydroxy-3- methylglutarate- CoA lyase).
NM_02 0080	11650	NP_064 465	11651	BC002873	11652	AAH028 73	11653	79	Nuclear protein E3-3 orf1	AI171562	rc_AI171562 EST217527 Rattus norvegicus cDNA, 3' end /clone=RMUBM56 /clone_end=3 /gb=AI171562 /gi=3711602 /ug=Rn.3479 /len=436		
X17163	11654	CAA35 084	11655	J04111	11656	AAA591 97	11657	78	c-Jun proto oncogene (JUN),	AI175959	rc_AI175959 EST219534 Rattus norvegicus cDNA, 3' end /clone=ROVBH68 /clone_end=3 /gb=AI175959 /ug=Rn.7672 /len=421		
AI1760 52	11658	P29411	11659	AB021870	11660	Q9UIJ7	11661	89	Adenylate kinase 3		rc_AI176052 EST219628 Rattus norvegicus cDNA, 3' end /clone=ROVBH90 /clone_end=3 /gb=AI176052 /ug=Rn.60 /len=587	Mitochondrial matrix	GTP-AMP phosphotransfer ase mitochondrial (EC 2.7.4.10) (AK3).
AI1764 22	11662	No Rat Protein Found.				NP_004 444	11663	95.07	ESTs, Highly similar to 2006241A flavoprotein ubiquitinone oxidoreductas e [H.sapiens]		rc_AI176422 EST220008 Rattus norvegicus cDNA, 3' end /clone=ROVBR53 /clone_end=3 /gb=AI176422 /ug=Rn.4044 /len=430		
AI1767 10	11664	P51179	11665	S81243	11666	Q92570	11667	93.75	Nuclear receptor subfamily 4, group A, member 3		rc_AI176710 EST220303 Rattus norvegicus cDNA, 3' end /clone=ROVBV80 /clone_end=3 /gb=AI176710 /ug=Rn.10410 /len=632	Nuclear	Nuclear hormone receptor NOR-1 (Neuron-derived orphan receptor 1).

Table 2.

AI1771 61	11668	O54958	11669	S74017	11670	Q16236	11671	82	NF-E2-related factor 2	rc_AI177161 EST220768 Rattus norvegicus cDNA, 3 end /clone=ROVCB60 /clone_end=3 /gb=AI177161 /ug=Rn.10867 /len=816	Nuclear .	Nuclear factor erythroid 2 related factor 2 (NF-E2 related factor 2)(NFE2- related factor 2) (Nuclear factor, erythroid derived 2, like 2).
AI1773 66	11672	P49134	11673	BG222775	11674	Q14622	11675	94.64	Integrin, beta 1	rc_AI177366 EST220986 Rattus norvegicus cDNA, 3 end /clone=RPLBY20 /clone_end=3 /gb=AI177366 /ug=Rn.1832 /len=618	Type I membrane protein.	Integrin beta-1 precursor (Fibronectin receptor beta subunit)(CD29 antigen) (Integrin VLA-4 beta subunit).
AI1782 08	11676	P52591	11677	AC006014	11678	g468986 4		70	Integral membrane glycoprotein	rc_AI178208 EST221873 Rattus norvegicus cDNA, 3 end /clone=RPLCN52 /clone_end=3 /gb=AI178208 /ug=Rn.10474 /len=619	TYPE II MEMBRANE PROTEIN. NUCLEAR PORE MEMBRANE.	Nuclear envelope pore membrane protein POM 121 (Pore membrane protein of 121 kDa) (P145).
AI1789 21	11679	P35559	11680	M21188	11681	P14735	11682	89.5	Insulin degrading enzyme	rc_AI178921 EST222803 Rattus norvegicus cDNA, 3 end /clone=RSPBT27 /clone_end=3 /gb=AI178921 /ug=Rn.10988 /len=614	Cytoplasmic.	Insulin- degrading enzyme (EC 3.4.24.56) (Insulysin) (Insulinase)(Ins ulin protease).
AI1803 50	11683	g14385 34		Y18084	11684	O76024	11685	92.19	CTD-binding SR-like protein P9	rc_AI180350 EST224084 Rattus norvegicus cDNA, 3 end /clone=RSPCV17 /clone_end=3 /gb=AI180350 /ug=Rn.10530 /len=672		

Table 2.

AI228247	11686	P08753	11687	J03004	11688	P04899	11689	98	Guanine nucleotide binding, alpha inhibiting polypeptide 3	rc_AI228247 EST224942 Rattus norvegicus cDNA, 3' end /clone=RBRC538 /clone_end=3 /gb=AI228247 /ug=Rn.4388 /len=623	Guanine nucleotide-binding protein G(k), alpha subunit (G(i) alpha-3).
AI228407	11690	P13589	11691	AI039838	11692	Q98653	11693	84.12	Pituitary adenylate cyclase activating polypeptide (41 on d.s.)	rc_AI228407 EST225102 Rattus norvegicus cDNA, 3' end /clone=RBRCU35 /clone_end=3 /gb=AI228407 /ug=Rn.3399 /len=486	Pituitary adenylate cyclase activating polypeptide precursor (PACAP)[Contaminant: PACAP-related peptide (PRP-48); Pituitary adenylate cyclase activating polypeptide-27 (PACAP-27); Pituitary aden
AI228689	11694	P23978	11695	X54673	11696	P30531	11697	89.45	GABA transporter protein	rc_AI228689 EST225364 Rattus norvegicus cDNA, 3' end /clone=RBRCX86 /clone_end=3 /gb=AI228689 /ug=Rn.10035 /len=582	Sodium- and chloride-dependent GABA transporter 1.

Integral membrane protein.

Table 2.

11698	11698	11698	11698	11700	11701	91.46	IMAD homolog 2 (Drosophila)	AI228675	rc_AI228675 EST225370 Rattus norvegicus cDNA, 3' end /clone=RBRCX95 /clone_end=3 /gb=AI228675 /ug=Rn.2755 /len=545	IN THE CYTOPLAS M IN THE ABSENCE OF LIGAND; MIGRATION TO THE NUCLEUS WHEN COMPLEXE D WITH SMAD4.	Mothers against decapentaplegic homolog 2 (SMAD 2) (Mothers againstDPP homolog 2) (Mad-related protein 2).
11698	11698	11698	11698	11700	11701	39	ESTs, Moderately similar to S78100 MAPK activated protein kinase (EC 2.7.1.-) 2 (fragment) [M.musculus]	AI228675	rc_AI228675 EST226116 Rattus norvegicus cDNA, 3' end /clone=REIMCG14 /clone_end=3 /gb=AI228675 /ug=Rn.8789 /len=542		
11706	11706	11706	11706	11708	11709	84.5	Testicular ecto ATPase	AI230130	rc_AI230130 EST226825 Rattus norvegicus cDNA, 3' end /clone=REIMCR65 /clone_end=3 /gb=AI230130 /ug=Rn.8276 /len=440	Integral membrane protein.	Ectonucleoside triphosphate diphosphohydroly ase 2 (EC 3.6.1.3)(NTPDa se2) (Ecto- ATPase) (CD38 antigen-like 1).
11710	11710	11710	11710	11712	11713	94.9	G protein gamma-5 subunit	AI232477	rc_AI232477 EST228165 Rattus norvegicus cDNA, 3' end /clone=RKICC15 /clone_end=3 /gb=AI232477 /ug=Rn.2885 /len=419		Guanine nucleotide- binding protein G(I)/G(S)/G(O) gamma-5 subunit.

Table 2.

AI2333 65	11714	No Rat Protein Found.	AW16344 4	11715	No Human Protein Found.	90.32	ESTs, Weakly similar to T24956 hypothetical protein T16G1.10 [C.elegans]		rc_A1233365 EST230063 Rattus norvegicus cDNA, 3' end /clone=RKIDJ13 /clone_end=3 /gb=AI233365 /ug=Rn.23561 /len=480		60S ribosomal protein L30.
K02832	11716	P04845	11717	AF104913	11718	Q04637	11719	100	AI233749	rc_A1233749 EST230437 Rattus norvegicus cDNA, 3' end /clone=RKIDJ59 /clone_end=3 /gb=AI233749 /ug=Rn.5971 /len=462	
NM_03 1668	11720	NP_113 856	11721	XM_02780 9	XP_027 809	57	MYB binding protein (P160) 1a	AI237258	rc_A1237258 EST233820 Rattus norvegicus cDNA, 3' end /clone=RPLCV74 /clone_end=3 /gb=AI237258 /ug=Rn.9881 /len=434		
AI6389 84	11722	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)				Rat mixed-tissue library Rattus norvegicus cDNA clone rx00388 3', mRNA sequence [Rattus norvegicus]		
AI6389 85	11723	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)				Rat mixed-tissue library Rattus norvegicus cDNA clone rx00148 3', mRNA sequence [Rattus norvegicus]		
NM_03 2613	11724	NP_116 002	11725	NM_0045 43	P20929	65	ESTs, Moderately similar LIM AND SH3 DOMAIN PROTEIN 1 [M.musculus]	AI638986	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00108 3', mRNA sequence [Rattus norvegicus]		
AI6390 02	11728	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)				Rat mixed-tissue library Rattus norvegicus cDNA clone rx03287 3', mRNA sequence [Rattus norvegicus]		
AI6390 19	11729	No Rat Protein Found.	No human homolog found.	No Human Protein Found.	EST(not recognised)				Rat mixed-tissue library Rattus norvegicus cDNA clone rx01107 3', mRNA sequence [Rattus norvegicus]		

Table 2.

AI6380 22	11730	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01427 3, mRNA sequence [Rattus norvegicus]
AI6390 88	11731	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00364 3, mRNA sequence [Rattus norvegicus]
AI6391 32	11732	No Rat Protein Found.	BG722716	No Human Protein Found.	11733	94.5	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01263 3, mRNA sequence [Rattus norvegicus]
AI6391 39	11734	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04483 3, mRNA sequence [Rattus norvegicus]
AI6391 48	11735	No Rat Protein Found.	NM_0190 41	O75570	11737	87.15	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02422 3, mRNA sequence [Rattus norvegicus]
AF2202 94	11738	AAF694 79	No human homolog found.	No Human Protein Found.		91	Rat mixed-tissue library Rattus norvegicus cDNA clone rz00757 3, mRNA sequence [Rattus norvegicus]
AI6392 55	11740	No Rat Protein Found.	No human homolog found.	No Human Protein Found.		EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01039 3, mRNA sequence [Rattus norvegicus]

Table 2.

AI6393 31	11741	No Rat Protein Found.	No human homolog found.	11741	No Human Protein Found.	EST (homology with mouse BAC #AC004093)	Rat mixed-tissue library Rattus norvegicus cDNA clone x00676 3, mRNA sequence [Rattus norvegicus]
AI6393 81	11742	No Rat Protein Found.	AL138478	11743	No Human Protein Found.	88 EST	Rat mixed-tissue library Rattus norvegicus cDNA clone x01486 3, mRNA sequence [Rattus norvegicus]
AI6393 95	11744	No Rat Protein Found.	No human homolog found.		No Human Protein Found.	EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone x03054 3, mRNA sequence [Rattus norvegicus]
AI6394 25	11745	No Rat Protein Found.	BE792880	11746	No Human Protein Found.	85.05 EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone x00313 3, mRNA sequence [Rattus norvegicus]
AI6394 51	11747	No Rat Protein Found.	No human homolog found.		No Human Protein Found.	EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone x03912 3, mRNA sequence [Rattus norvegicus]
AY0377 63	11748	AAK686 36	11748 XM_04361 2		XP_043 612	67 adiponutrin	Rat mixed-tissue library Rattus norvegicus cDNA clone x01430 3, mRNA sequence [Rattus norvegicus]
H31078	11750	No Rat Protein Found.	AK025305	11751	No Human Protein Found.	90.12 EST(not recognised)	rc_H31078 EST104768 Rattus norvegicus cDNA, 3 end /clone=RPCAB15 /clone_end=3 /gb=H31078 /gi=976500 /ug=Rn.22853 /len=313
H31313	11752	No Rat Protein Found.	No human homolog found.		No Human Protein Found.	EST(not recognised)	rc_H31313 EST106230 Rattus norvegicus cDNA, 3 end /clone=RPCAH12 /clone_end=3 /gb=H31313 /gi=976730 /ug=Rn.18190 /len=385
H31351	11753	No Rat Protein Found.	No human homolog found.		No Human Protein Found.	EST(not recognised)	rc_H31351 EST105310 Rattus norvegicus cDNA, 3 end /clone=RPCAH85 /clone_end=3 /gb=H31351 /gi=976768 /ug=Rn.14564 /len=352
H31420	11754	No Rat Protein Found.	AA845957	11755	No Human Protein Found.	85.29 EST(not recognised)	rc_H31420 EST105436 Rattus norvegicus cDNA, 3 end /clone=RPCAJ34 /clone_end=3 /gb=H31420 /gi=976837 /ug=Rn.8443 /len=312



Table 2.

H31588	11756	No Rat Protein Found.	AA947174	11757	g222464 3	92.74	ESTs, Moderately similar to KIAA0351 [H.sapiens] EST(not recognised)	rc_H31588 EST105764 Rattus norvegicus cDNA, 3 end /clone=RPCAR49 /clone_end=3 /gb=H31588 /gi=977005 /ug=Rn.25545 /len=343			
H31590	11758	No Rat Protein Found.	No human homolog found.	No	Human Protein Found.			rc_H31590 EST105767 Rattus norvegicus cDNA, 3 end /clone=RPCAR52 /clone_end=3 /gb=H31590 /gi=977007 /ug=Rn.14574 /len=498			
H31802	11759	S12207	No human	No	Human Protein Found.		EST, Moderately similar to S12207 hypothetical protein [M.musculus]	rc_H31802 EST108213 Rattus norvegicus cDNA, 3 end /clone=RPCAY40 /clone_end=3 /gb=H31802 /gi=977219 /ug=Rn.14594 /len=518			
H31807	11760	P97834	11761	U20285	11762	Q13098	97	R.norvegicus mRNA for mammalian fusca protein	rc_H31807 EST108452 Rattus norvegicus cDNA, 3 end /clone=RPCBC73 /clone_end=3 /gb=H31807 /gi=977324 /ug=Rn.13413 /len=336	Nuclear and cytoplasmic .	COP9 signalosome complex subunit 1 (G protein pathway suppressor 1)(GPS1 protein) (MFH protein).
H31914	11764	P13383	11765	M60858	11766	P19338	84	Nucleolin	rc_H31914 EST108462 Rattus norvegicus cDNA, 3 end /clone=RPCBC88 /clone_end=3 /gb=H31914 /gi=977331 /ug=Rn.23828 /len=397		
S79189	11768	AAB349 38	11769	NM_0036 29	11770	Q82569	93	Mouse p55PIK=phosphatidylinositol 3-kinase regulatory subunit	rc_H33836 EST109819 Rattus norvegicus cDNA, 3 end /clone=RPNAV07 /clone_end=3 /gb=H33836 /gi=978053 /ug=Rn.14853 /len=411	H33836	
H33851	11772	No Rat Protein Found.	No human homolog found.	No	Human Protein Found.		EST109846 PC-12 cells, NGF-treated (9 days)	rc_H33851 EST109846 Rattus norvegicus cDNA, 3 end /clone=RPNAV67 /clone_end=3 /gb=H33851 /gi=978088 /ug=Rn.14654 /len=447			

Table 2.

H33660	11773	No Rat Protein Found.	AK058044	11774	No Human Protein Found.	11775	82	EST(not recognised)	rc_H33660 EST109859 Rattus norvegicus cDNA, 3' end /clone=RPNAW03 /clone_end=3 /gb=H33660 /gi=879077 /ug=Rn.3331 /len=388
S45812	11776	190315 9A	M68840	11777	P21397	11778	91	ESTs, Highly similar to 1903159A monoamine oxidase A [R.norvegicus]	S45812 monoamine oxidase A [rats, liver, mRNA Partial, 2104 nt]
S48325	11779	AAB241 51	11780 XM_051310	11781	XP_051310	11782	80	Diabetes-Inducible cytochrome P450RLM6, RLM6 (see 257 on this sheet)	S48325 diabetes-inducible cytochrome P450RLM6 [rats, liver, mRNA Partial, 1093 nt]
S49760	11783	JC8124	11784 U51477	11785	Q13574	11786	92	Diacylglycerol kinase	S49760 diacylglycerol kinase [rats, brain, mRNA, 3043 nt]
S57478	11787	LURT1	11788 X05908	11789	P04083	11790	95	Annexin 1 (p35) (Lipocortin 1)	S57478 cds S57440S13 lipocortin I [rats, Genomic, 361 nt, segment 13 of 13]
S59525	11791	AAB264 20	11792 NM_000406	11793	P30968	11794	81	Gonadotropin-releasing hormone receptor	S59525 gonadotropin-releasing hormone receptor [rats, pituitary gland, mRNA, 2256 nt]
S67900	11795	AAB286 78	11796 XM_001408		XP_001408		92	6-phosphofructose-2,6-bisphosphatase 2	S67900 fructose 6-phosphate, 2-kinase/fructose 2,6-bisphosphatase [rats, brain, mRNA, 3591 nt]
S71021	11797	AAB308 18	11798 X69391	11799	Q02878	11800	67	Malignancy-related C140 product	S71021 malignancy-related C140 product [rats, thyroid FRTL-Tc cells, mRNA Partial, 746 nt]
S79214	11801	191715 0A	X60382	11802	Q03692	11803	88	Collagen alpha 1 type X	S79214 cds type X collagen alpha 1 chain (NC1 domain) [rats, Genomic, 491 nt]

Table 2.

	11804	No Rat Protein Found.	No human homolog found.	11807	Human Protein Found.	11808	76	Histamine N- tele- methyltransferase			
S82579	11804	No Rat Protein Found.	No human homolog found.	11807	g224537 6	11808	76	A-2 arylamine N- acetyltransferase	S82579 histamine N-tele-methyltransferase {3 region, exon 4} [rats, Sprague Dawley, liver, mRNA Partial, 185 nt]	Cytoplasmic.	Arylamine N- acetyltransferase 1 (EC 2.3.1.5) (Arylamide acetylase 1)(N- acetyltransferase type 1) (NAT-1) (AT-1).
U01344	11805	P50297	U08035	11807	g224537 6	11808	76	A-2 arylamine N- acetyltransferase	U01344 Rattus norvegicus clone A-2 arylamine N-acetyltransferase mRNA, complete cds /cds=(976,1847) /gb=U01344 /gi=786257 /ug=Rn.11112 /len=2533		
U04835	11809	192136 8A	D14826	11811	XP_005 813	11812	93.07	cAMP responsive element modulator	U04835 Rattus norvegicus CREMdeltaC-G gene, complete cds /cds=(8 460) /gb=U04835 /gi=1256545 /ug=Rn.10251 /len=607		
U06230	11813	I59618	M15036	11814	P07225	11815	88.41	Protein S	U06230 Rattus norvegicus protein S mRNA, partial cds /cds=(0,1040) /gb=U06230 /gi=497116 /ug=Rn.4845 /len=1589		
U09540	11816	Q64678	U03688	11818	Q16678	11819	84.64	Cytochrome P450 1B1 (see 257 on this sheet)	U09540 RNU09540 Rattus norvegicus Sprague-Dawley cytochrome P450 (CYP1B1) mRNA, complete cds	Membrane- bound. Endoplasmic reticulum.	Cytochrome P450 1B1 (EC 1.14.14.1) (CYP1B1) (P450RAP).
U11685	11820	Q62685	BC008819	11822	Q13133	11823	92.24	Nuclear receptor subfamily 1, group H, member 3	U11685 Rattus norvegicus orphan receptor RLD-1 (rid-1) mRNA, complete cds /cds=(24,1361) /gb=U11685 /gi=555751 /ug=Rn.11209 /len=1723	Nuclear .	Oxysterols receptor LXR- alpha (Liver X receptor alpha) (Nuclear orphanreceptor LXR-alpha) (RLD-1).

Table 2.

U12187	11824	P55043	11825	L24564	11826	P55042	11827	90	Ras-related protein (rad)	U12187 Rattus norvegicus ras-related protein (rad) mRNA, complete cds /cds=(258,1064) /gb=U12187 /gi=595472 /ug=Rn.11189 /len=1421	GTP-binding protein RAD (RAS associated with diabetes) (RAD1).
U14398	11828	P50232	11829	X96783	11830	O00445	11831	42	Synaptotagmin n 4	U14398 Rattus norvegicus synaptotagmin IV homolog mRNA, complete cds /cds=(287,1544) /gb=U14398 /gi=550453 /ug=Rn.11072 /len=2080	Synaptotagmin IV (SytiV).
U15138	11832	Q62698	11833	AF035812	11834	O43237	11835	93.97	LIC-2 dynein light intermediate chain 53/55	U15138 Rattus norvegicus LIC-2 dynein light intermediate chain 53/55 mRNA, complete cds /cds=(5,1498) /gb=U15138 /gi=618664 /ug=Rn.11100 /len=4300	Dynein light intermediate chain 2, cytosolic (LIC53/55) (LIC-2).
U17254	11836	P22829	11837	D49728	11838	P22736	11839	91	Immediate early gene transcription factor NGFI-B	U17254 Rattus norvegicus immediate early gene transcription factor NGFI-B mRNA, complete cds /cds=(212,1903) /gb=U17254 /gi=596053 /ug=Rn.10000 /len=2488	Orphan nuclear receptor HMR (Nerve growth factor induced protein I-B) (NGFI-B) (NUR77).
U17901	11840	P54319	11841	AV720153	11842	g532686 6		92.06	Phospholipase A-2-activating protein (plap)	U17901 Rattus norvegicus phospholipase A-2-activating protein (plap) mRNA, complete cds /cds=UNKNOWN /gb=U17901 /gi=1041680 /ug=Rn.22260 /len=2452	Phospholipase A-2-activating protein (PLAP).
U22830	11843	P49651	11844	AF018284	11845	P47900	11846	88.77	P2 purinoceptor subclass 2Y	U22830 Rattus norvegicus P2Y purinoceptor mRNA, complete cds /cds=(618,1740) /gb=U22830 /gi=767872 /ug=Rn.10217 /len=3204	P2Y purinoceptor 1 (ATP receptor) (P2Y1) (Purnergic receptor).

Table 2.

U23056	11847	P16573	11848	M29540	11849	P06731	11850	86.79	Carcinoma embryonic antigen-related cell adhesion molecule	U23056 Rattus norvegicus C-CAM4 mRNA, complete cds /cds=(82,510) /gb=U23056 /gi=1353245 /ug=Rn.2382 /len=678	TYPE I MEMBRANE PROTEIN. CANALICULAR DOMAIN OF HEPATOCYTE PLASMA MEMBRANE S.	Ecto-ATPase precursor (Cell-CAM 105) (C-CAM 105) (ATP-dependent transporter) (GP110).
U23769	11851	P52944	11852	BC000916	11853	O00161	11854	86.59	LIM protein	U23769 Rattus norvegicus CLP36 (clp36) mRNA, complete cds /cds=(96,1049) /gb=U23769 /gi=1020160 /ug=Rn.11170 /len=1392	Cytoplasmic	PDZ and LIM domain protein 1 (LIM domain protein CLP-36) (C-terminal LIM domain protein 1) (Ef1in).
U24489	11855	g1336153		M26856	11856	g180964		70	Tenascin X	U24489 Rattus norvegicus tenascin-X mRNA, partial cds /cds=(0,614) /gb=U24489 /gi=841425 /ug=Rn.10225 /len=783		
U26310	11857	AA067648	11858	NM_022648	11859	NP_072174	11860	97	Tensin (Tns)	U26310 RNU26310 Rattus norvegicus tensin (Tns) mRNA, partial cds		
U26356	11861	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			S100A1 gene	U26356 mRNA RNSHUNA1 Rattus norvegicus S100A1 gene, exon 1		
U27319	11862	AAC52945	11863	NM_000188	11864	P19367	11865	100	Hexokinase 1	U27319 exon RNU27319 Rattus norvegicus type I hexokinase (HK) gene, promoter region and partial cds		
U27518	11866	Q62789	11867	BG203058	11868	g3287473		89.22	UDP-glucuronosyltransferase	U27518 Rattus norvegicus UDP-glucuronosyltransferase mRNA, complete cds /cds=(26,1618) /gb=U27518 /gi=1177817 /ug=Rn.11131 /len=1947	Microsomal.	UDP-glucuronosyltransferase 2B8 precursor, microsomal (EC 2.4.1.17) (UDPGT) (UGT2B-RH4).

Table 2.

U28938	11869	T14328	11870	AF187042	11871	S60613	11872	88.55	Receptor-type protein tyrosine phosphatase D30	U28938 Rattus norvegicus protein tyrosine phosphatase D30 mRNA, complete cds /cds=(62,3712) /gb=U28938 /gi=1144001 /lug=Rn.10163 /len=4871	Nuclear.	Transcription factor E2F5 (E2F-5) (Fragment).
U31668	11873	Q62814	11874	Z78409	11875	Q15329	11876	92.64	Transcription factor E2F-5 mRNA, partial cds	U31668 Rattus norvegicus transcription factor E2F-5 mRNA, partial cds /cds=(0,904) /gb=U31668 /gi=939730 /lug=Rn.10286 /len=1496		
U31866	11877	g1854476		AK021725	11878	g339469		88.61	Rattus norvegicus Nclone10 mRNA (28 on d.s.)	U31866 Rattus norvegicus Nclone10 mRNA /cds=UNKNOWN /gb=U31866 /gi=1216376 /lug=Rn.11164 /len=2657		
U31880	11879	Q62818	11880	AF035280	11881	P49770	11882	92	Eukaryotic translation initiation factor 2B, subunit 2 (beta, 39kD)	U31880 Rattus norvegicus eIF-2B beta subunit mRNA, complete cds /cds=(45,1100) /gb=U31880 /gi=1143157 /lug=Rn.5910 /len=1474		Translation Initiation factor eIF-2B beta subunit (eIF-2B GDP-GTPexchange factor).
U32681	11883	A57190	11884	AJ243212	11885	i38006	11886	86.17	Crp-ducdin	U32681 Rattus norvegicus abnerin mRNA, complete cds /cds=(93,3965) /gb=U32681 /gi=975346 /lug=Rn.10107 /len=4344		
NIM_019284	11887	NP_062157	11888	AF059274	11889	NP_006565	11890	92.14	Chondroitin sulfate proteoglycan 5 (neuroglycan C)	U33553 Rattus norvegicus neuroglycan C precursor mRNA, complete cds /cds=(12,1646) /gb=U33553 /gi=1061328 /lug=Rn.10146 /len=2107		
U34843	11891	g1236114	11892	U27112	11893	g3551742	11894	88.12	Rattus norvegicus cell cycle progression related D123 mRNA, complete cds	U34843 Rattus norvegicus cell cycle progression related D123 mRNA, complete cds /cds=(53,1063) /gb=U34843 /gi=1236113 /lug=Rn.11096 /len=1683		



Table 2.

U51898	11918	P97570	11919	AK001280	11920	g530559 4	90.47	Ca <sup>2+</sup> - independent phospholipase A2	U51898 Rattus norvegicus Ca <sup>2+</sup> - independent phospholipase A2 mRNA, complete cds /cds=(474,2729) /gb=U51898 /gi=1743845 /ug=Rn.5941 /len=3273	Cytoplasmic.	85 kDa calcium- independent phospholipase A2 (EC 3.1.1.4) (PLA2) (Cal- PLA2) (Group VI phospholipase A2) (GV PLA2).
U53184	11921	No Rat Protein Found.		AB034747	11922	Q89732	83.41	Estrogen- responsive uterine transcript	U53184 Rattus norvegicus estrogen- responsive uterine mRNA, partial sequence /cds=UNKNOWN /gb=U53184 /gi=1278978 /ug=Rn.6940 /len=2006		
U53858	11924	P97571	11925	AK026380	11926	P07384	93.28	Calpain 1	U53858 Rattus norvegicus mu-calpain large subunit (cls1) mRNA, complete cds /cds=(41,2182) /gb=U53858 /gi=1794202 /ug=Rn.6037 /len=2817	Cytoplasmic; Translocates to the plasma membrane upon Ca <sup>++</sup> binding .	Calpain 1, large [catalytic] subunit (EC 3.4.22.17) (Calcium- activated neutral protease) (CANP) (Mu- type) (muCANP) (Micromolar- calpain).



Table 2.

U54632	11928	P50550	11929	U29092	11930	P50550	11931	93.2	Ubiquitin conjugating enzyme E2l	U54632 RNU54632 Rattus norvegicus ubiquitin-conjugating enzyme UbcE2A mRNA, complete cds	Ubiquitin-like protein SUMO-1 conjugating enzyme (EC 6.3.2.18) (SUMO-1- protein ligase) (Ubiquitin carrier protein) (Ubiquitin- conjugating enzy- me UbcE2A) (P18).
U56862	11932	Q62981	11933	AL542378	11934	Q15072	11935	89.47	Pancreas zinc finger protein	U56862 RNU56862 Rattus norvegicus pancreas only zinc finger protein (POZF-1) mRNA, complete cds	Nuclear .
U62897	11936	P15087	11937	BE552042	11938	P16870	11939	92.96	Carboxypeptid- ase D precursor	U62897 Rattus norvegicus carboxypeptidase D precursor (Cpd) mRNA, complete cds /cds=(45,4181) /gb=U62897 /gi=2406562 /ug=Rn.4083 /len=4377	
U65007	11940	P97523	11941	U11813	11942	P08581	11943	92.61	Met proto- oncogene	U65007 Rattus norvegicus hepatocyte growth factor receptor mRNA, complete cds /cds=(0,4148) /gb=U65007 /gi=1879659 /ug=Rn.10617 /len=4189	Hepatocyte growth factor receptor precursor (EC 2.7.1.112) (Met proto-oncogene tyrosine kinase) (c-met) (HGF- receptor) (HGF- SF receptor).

Table 2.

U65656	11844	P33436	11945	AU123141	11946	P05455	11947	90.29	Gelatinase A	U65656 Rattus norvegicus gelatinase A mRNA, complete cds /cds=(291,2279) /gb=U65656 /gi=1813502 /ug=Rn.8422 /len=3040	72 kDa type IV collagenase precursor (EC 3.4.24.24) (72 kDagelatinase) (Matrix metalloproteinase-2) (MMP-2) (Gelatinase A).
U67207	11948	S74225		U52912	11949	P48357	11950	87	Leptin receptor (fatty)	U67207 RNU67207 Rattus norvegicus leptin receptor (OB-R) mRNA, partial cds	
U67894	11951	AAB38619	11952	X74330	11953	P49842	11954	90.27	Rattus norvegicus DNA primase small subunit	U67894 Rattus norvegicus DNA primase small subunit mRNA, partial cds /cds=(0,91) /gb=U67894 /gi=1763024 /ug=Rn.10649 /len=410	
U75916	11955	g1839182		AK025185	11956	g5924408		93.02	Zonula occludens 2 protein (ZO-2)	U75916 Rattus norvegicus zonula occludens 2 protein (ZO-2) mRNA, partial cds /cds=(0,2443) /gb=U75916 /gi=1839161 /ug=Rn.10985 /len=3329	
U76252	11957	P07314	11958	AL117414	11959	P36269	11960	87.03	Gamma-glutamyltransf erase-like activity 1	U76252 RNU76252 Rattus norvegicus gamma glutamyl transpeptidase-related enzyme mRNA, partial cds	
U77829	11961	No Rat Protein Found.		No human homolog found.		No Human Protein Found.			Gas-5 growth arrest homolog	U77829 mRNA RNU77829 Rattus norvegicus gas-5 growth arrest homolog non-translated mRNA sequence	
U82626	11962	AAB96342	11963	NM_005445	11964	NP_005436	11965	89	Chondroitin sulfate proteoglycan 6	U82626 Rattus norvegicus basement membrane-associated chondroitin proteoglycan Bamacan mRNA, complete cds /cds=(89,3664) /gb=U82626 /gi=1785539 /ug=Rn.11074 /len=4104	
U86379	11966	O55197	11967	U28488	11968	Q16581	11969	84.91	Complement component 3a receptor 1	U86379 Rattus norvegicus anaphylatoxin C3a receptor mRNA, complete cds /cds=(129,1550) /gb=U86379 /gi=3015534 /ug=Rn.9772 /len=2071	Integral membrane protein.
U87971	11970	AAB93844	11971	NM_003164	11972	Q13190	11973	95	Syntaxin 5a	U87971 RNU87971 Rattus norvegicus syntaxin 5 mRNA, partial cds	C3a anaphylatoxin chemotactic receptor (C3a-R) (C3AR).

Table 2.

U88036	11974	O35913	11975	U21943	11976	P46721	11977	72	Brain digoxin carrier protein	U88036 Rattus norvegicus brain digoxin carrier protein mRNA, complete cds /cds=(118,2103) /gb=U88036 /gi=2501807 /ug=Rn.5641 /len=3622	Integral membrane protein.	Sodium-independent organic anion transporter 2 (Brain digoxin carrier protein) (Brain-specific organic anion transporter) (OATP-B1).
U88324	11978	P54311	11979	AY007113	11980	RGHUB1	11981	95.71	Guanine nucleotide-binding protein beta	U88324 RNU88324 Rattus norvegicus G protein beta 1 subunit (Gbt) mRNA, complete cds		Guanine nucleotide-binding protein G(I)/G(S)/G(T) beta subunit 1 (Transducin beta chain 1).
U88986	11982	T34256		U38545	11983	Q13393	11984	88	Phospholipase D gene 1	U88986 RNU88986 Rattus norvegicus phospholipase D 1 mRNA, partial cds		
U89743	11985	AAB49893	11986	No human		No Human Protein Found.			Rattus norvegicus unknown protein	U89743 Rattus norvegicus unknown protein mRNA, partial cds /cds=(0,251) /gb=U89743 /gi=1890272 /ug=Rn.10716 /len=853		
U89745	11987	AAB49895	11988	No human		No Human Protein Found.			Rattus norvegicus unknown protein	U89745 Rattus norvegicus unknown protein mRNA, partial cds /cds=(0,293) /gb=U89745 /gi=1895082 /ug=Rn.10720 /len=1114		
U90312	11989	O55207	11990	AL157424	11991	O15056	11992	94.07	Synaptotagmin II	U90312 Rattus norvegicus synaptotagmin II mRNA, complete cds /cds=(65,3801) /gb=U90312 /gi=2708492 /ug=Rn.10868 /len=5033	CYTOPLASMIC INTERACTION OF ISOFORM 2A WITH OMP25 RESULTS IN LOCALIZATION TO THE MITOCHONDRIA.	Synaptotagmin 2 (EC 3.1.3.56) (Synaptic inositol-1,4,5-trisphosphate 5-phosphatase 2).

Table 2.

NM_02 4159	11993	O88797	11994	AK024965	11995	NP_001 334	11998	92.56	DOC-2 p82 isoform	U95178	U95178 Rattus norvegicus DOC-2 p59 isoform mRNA, complete cds /cds=(6,1658) /gb=U95178 /gl=3157994 /ug=Rn.14763 /len=2504	Disabled homolog 2 (DOC-2) (Mitogen- responsive phosphoprotein) (C9).
U97142	11997	Q62997	11998	AF042080	11999	P56159	12000	90.19	Glial cell line- derived neurotrophic factor receptor alpha (42 on d.s.)	U97142 Rattus norvegicus RET ligand 1 (RET1.1) mRNA, complete cds /cds=(256,1662) /gb=U97142 /gl=2282021 /ug=Rn.6281 /len=3616	Attached to the membrane by a GPI- anchor.	
V01216	12001	P02764	12002	X02544	12003	P02763	12004	51	Rat messenger encoding alpha-1-acid glycoprotein	V01216 Rat messenger encoding alpha-1- acid glycoprotein /cds=(35,652) /gb=V01216 /gl=55559 /ug=Rn.10285 /len=769	Alpha-1-acid glycoprotein precursor (Orosomucoid) (OMD).	
NM_02 4128	12005	NP_077 042	12006	AW97475 6	12007	No Human Protein Found.		93.69	Brain specific mRNA B (clone p1a75)	V01543	V01543mRNA Rat mRNA fragment isolated from the brain and coding for brain specific peptide /cds=(547,908) /gb=V01543 /gl=56876 /ug=Rn.2885 /len=1136	
NM_03 1518	12008	P04218	12009	X05323	12010	CAA289 43	12011	69	Cell surface protein (thymocyte, antigen identified by monoclonal antibody MRC- OX2	X01785	X01785 Rat thymocyte mRNA for cell surface protein (MRC OX-2) /cds=(24,860) /gb=X01785 /gl=56700 /ug=Rn.7085 /len=2216	OX-2 membrane glycoprotein precursor (MRC OX-2 antigen).
X02341	12012	CAA26 200	12013	NM_0033 81	12014	P01282	12015	84	Vasoactive intestinal polypeptide (VIP) precursor		X02341cde RNVIPR Rat mRNA for vasoactive intestinal polypeptide (VIP) precursor	

Table 2.

X02601	12016	P03957	12017	J03209	12018	P08254	12019	83	53 kD polypeptide induced by growth factors (EGF) and oncogenes (H-ras; src; polyoma middle T)	X02601 Rat mRNA for 53 kD polypeptide induced by growth factors (EGF) and oncogenes (H-ras; src; polyoma middle T) /cds=(57,1484) /gb=X02601 /gi=57460 /ug=Rn.10435 /len=1771	Stromelysin-1 precursor (EC 3.4.24.17) (Matrix metalloproteinase-3)(MMP-3) (Transin-1) (SL-1) (PTR1 protein).
NM_012998	12020	P04785	12021	BE770246	12022	P37268	12023	87.62	Protein disulfide isomerase (Prolyl 4-hydroxylase, beta polypeptide)	X02918 Rat mRNA for protein disulfide isomerase (PDI; EC 5.3.4.1) /cds=(44,1570) /gb=X02918 /gi=56871 /ug=Rn.4234 /len=2460	Protein disulfide isomerase precursor (PDI) (EC 5.3.4.1) (Prolyl 4-hydroxylase beta subunit) (Cellular thyroid hormone binding protein)(Thyroxine deiodinase) (EC 3.8.1.4) (Iodothyronine 5'-monodeiodin
X06769	12024	CAA29837	12025	V01512	12026	CAA24756	12027	77	c-fos protein	X06769cds RNCFOSR Rat c-fos mRNA	Glucose-6-phosphate 1-dehydrogenase (EC 1.1.1.49) (G6PD).
X07467	12028	P05370	12028	X03674	12030	P11413	12031	93	Glucose-6-phosphate dehydrogenase	X07467 Rat mRNA for glucose-6-phosphate dehydrogenase (Gd, EC 1.1.1.49) /cds=(41,1588) /gb=X07467 /gi=56195 /ug=Rn.11040 /len=2306	

Table 2.

X07636	12032	P08290	12033	IM11025	12034	P07307	12035	67	Asialoglycoprotein receptor 2	X07636 Rat mRNA for hepatic lectin /cds=(77,982) /gb=X07636 /gi=57066 /ug=Rn.9834 /len=1280	Type II membrane protein.	Asialoglycoprotein receptor R2/3 (Hepatic lectin 2/3) (RHL-2) (ASGPR) (ASGPR).
NM_013069	12036	P10247	12037	NM_004355	12038	P04233	12039	67	CD74 antigen (invariant polypeptide of major histocompatibility class II antigen-associated) (9 on d.s.)	X13044 Rat mRNA for MHC-associated invariant chain gamma /cds=(52,702) /gb=X13044 /gi=56497 /ug=Rn.10475 /len=1150	Type II membrane protein.	H-2 class II histocompatibility antigen, gamma chain (MHC class II associated invariant chain) (Ia antigen-associated invariant chain)(I) (CD74 antigen).
X13722	12040	P35952	12041	S70123	12042	AAF24515	12043	88.88	Rat mRNA for LDL-receptor	X13722 Rat mRNA for LDL-receptor /cds=(153,2792) /gb=X13722 /gi=56569 /ug=Rn.10483 /len=3037	Type I membrane protein.	Low-density lipoprotein receptor precursor (LDL receptor).
X17012	12044	P01346	12045	X00910	12046	P01344	12047	90	Insulin-like growth factor II (somatomedin A)	X17012mRNA RNIGF2 Rat IGFII gene for insulin-like growth factor II		
X17053	12048	CAA34901	12049	NM_005408	12050	Q99816	12051	53	Immediate-early serum-responsive JE gene (6 on d.s.)	X17053mRNA RATJE Rat immediate-early serum-responsive JE gene		

Table 2.

X52840	12052	P18666	12053	X64304	12054	P19105	12055	97	Myosin regulatory light chain	X52840 Rat mRNA for smooth muscle myosin RLC-B /cds=(17,535) /gb=X52840 /gi=56702 /ug=Rn.2967 /len=1113	Myosin regulatory light chain 2-B, smooth muscle isoform (MyosinRLC-B).
X53054	12056	P18211	12057	No human homolog found.	168796	72	RT1.D beta chain	Sequence 53 from patent US 5677149	X53054 Rat mRNA for RT1.D beta chain /cds=(15,809) /gb=X53054 /gi=57168 /ug=Rn.11299 /len=1197	RT1 class II histocompatibility antigen, D-1 beta chain precursor.	
NM_022688	12058	P18889	12059	No Human	No Human Protein Found.		Preoptic regulatory factor-1	X53231	X53231 Rat mRNA for preoptic regulatory factor-1 (PORF-1) /cds=(26,139) /gb=X53231 /gi=56949 /ug=Rn.19843 /len=689	Secreted . Putative preoptic regulatory factor-1 precursor (PORF-1).	
X55812	12060	P20272	12061	X81121	12062	P21554	12063	93.46	Cannabinoid receptor 1	X55812completeSeq Rat mRNA for SKR6 gene, a CB1 cannabinoid receptor /cds=UNKNOWN /gb=X55812 /gi=1552375 /ug=Rn.10579 /len=5465	Integral membrane protein. Cannabinoid receptor 1 (CB1) (CB-R) (Brain-type cannabinoid receptor).
X55596	12064	P29826	12065	BM727355	12066	P05638	12067	96.99	MHC class II antigen RT1.B-1 beta-chain	X55596 Rat mRNA for MHC class II antigen RT1.B-1 beta-chain /cds=(7,798) /gb=X55596 /gi=57152 /ug=Rn.20089 /len=1374	RT1 class II histocompatibility antigen, B-1 beta chain precursor(RT1.B-beta(1)).
X57764	12068	P21451	12069	X99250	12070	P24530	12071	86.64	ET-B Endothelin receptor	X57764 Rat mRNA for ET-B endothelin receptor /cds=(203,1528) /gb=X57764 /gi=56122 /ug=Rn.11412 /len=1892	Integral membrane protein. Endothelin B receptor precursor (ET-B) (Endothelin receptorNon-selective type).

Table 2.

X58631	12072	PT0183	12073	L36645	12074	P54764	12075	94	ESTs, Highly similar to PT0183 protein-tyrosine kinase [R.norvegicus]	X58631cds RPTYKI Rat mRNA for protein-tyrosine kinase		
X58830	12076	Q04906	12077	A1367148	12078	P22004	12079	92.19	Bone morphogenetic protein 6	X58830 Rat vgr mRNA /cds=(Q.623) /gb=X58830 /gi=57475 /ug=Rn.10436 /len=1241		Bone morphogenetic protein 6 precursor (BMP-6) (VG-1-related protein)(VGR-1) (Fragment).
X59132	12080	P23811	12081	A1220044	12082	P47872	12083	93.85	Secretin receptor	X59132 R.norvegicus mRNA for secretin receptor /cds=(212,1561) /gb=X59132 /gi=67228 /ug=Rn.10977 /len=1786	Integral membrane protein.	Secretin receptor precursor (SCT-R).
X59267	12084	Q07266	12085	U00802	12086	Q16643	12087	89.24	Drebrin A	X59267 R.norvegicus mRNA for drebrin A /cds=(53,2176) /gb=X59267 /gi=297820 /ug=Rn.11247 /len=2678	Cytoplasmic.	Drebrin (Developmentally regulated brain protein).
X59864	12088	CAA42524	12089	No human homolog found.		No Human Protein Found.			ASM15 gene	X59864mRNA RRASM15 Rat ASM15 gene		
X59893	12090	Q63679	12091	AF155648	12092	g3882205	12093	96.85	Putative zinc finger protein	X59893 R.norvegicus mRNA for putative zinc finger protein /cds=(299,3943) /gb=X59893 /gi=57503 /ug=Rn.10541 /len=4505		Testis specific protein A (Zinc finger protein TSGA).
X61381	12094	CAA43655	12095	BC006794	12096	Q01628	12097	65	Interferon induced mRNA	X61381cds RRIIMRNA R. rattus Interferon induced mRNA		





Table 2.

X64563	12110	P28524	12111	IM18082	12112	P05120	12113	82.34	Plasminogen activator inhibitor 2 type A		X64563cds RNPAI2AMR R.norvegicus mRNA for plasminogen activator inhibitor 2 type A (PAI2A)	CYTOPLASMIC OR EXTRACELLULAR	Plasminogen activator inhibitor-2, type A (PAI2A).
X65036	12114	Q63258	12115	AF032108	12116	Q13683	12117	90.21	Alpha 7A Integrin (10, 35 on d.s.)		X65036 R.norvegicus mRNA for H38-alpha7 Integrin alpha chain /cds=(0,3320) /gb=X65036 /gi=56392 /ug=Rn.3238 /len=3754	Type I membrane protein.	Integrin alpha-7 (H38-alpha7).
X65454	12118	Q64375	12119	U47621	12120	Q92791	12121	93.83	SC85 synaptonemal complex protein		X65454 R.norvegicus mRNA for SC85 synaptonemal complex protein /cds=(19,1314) /gb=X65454 /gi=57191 /ug=Rn.10547 /len=1407	NUCLEAR. LOCATED IN THE PAIRING ZONE OF THE SYNAPTONEMAL COMPLEX.	Synaptonemal complex protein SC85.
X66022	12122	P56163	12123	U43843	12124	Q82782	12125	93.5	Neuro-d4		X66022mRNA#1 RNIND4P R.norvegicus mRNA for neuro-D4 protein	Nuclear and cytoplasmic.	Zinc-finger protein neuro-d4.
NM_012923	12126	P39950	12127	NM_004060	12128	P51959	12129	90	Cyclin G1	X70871	X70871 R.norvegicus mRNA for cyclin G /cds=(0,884) /gb=X70871 /gi=432987 /ug=Rn.11380 /len=885	Nuclear.	Cyclin G1 (Cyclin G).
X73371	12130	Q63203	12131	X62473	12132	P31994	12133	54	Fc gamma receptor		X73371 R.norvegicus mRNA for Fc gamma receptor /cds=(124,981) /gb=X73371 /gi=397576 /ug=Rn.10363 /len=1430	Type I membrane protein.	Low affinity immunoglobulin gamma FC region receptor II precursor (FC-gamma RI) (FCRII) (IGG FC receptor II beta).

Table 2.

NM_01 2736	12134	P35571	12135	AK022596	12136	XP_002 442	92.07	Glycerol-3- phosphate dehydrogenase 2 (mitochondrial )	X78593	X78593 R.norvegicus mRNA for glycerol-3- phosphate dehydrogenase /cds=(91,2274) /gb=X78593 /gi=603582 /ug=Rn.10167 /len=2400	Mitochondrial	Glycerol-3- phosphate dehydrogenase, mitochondrial precursor(EC 1.1.99.5) (GPD- M) (GPDH-M).
X78603	12137	Q63055	12138	X91504	12139	Q13785	97	ARP1 mRNA for ARF- related protein	X78603 R.norvegicus (Sprague Dawley) ARP1 mRNA for ARF-related protein /cds=(137,742) /gb=X78603 /gi=1103618 /ug=Rn.10973 /len=925	ARF-related protein (ARP).		
X88699	12141	CAA61 846	12142	NM_0035 54	12143	NP_003 545	57	TPCR10 protein	X88699cds RNTPCR10P R.norvegicus mRNA for TPCR10 protein			
X89703	12145	CAA61 850	12146	X88675	12147	CAA618 22	46	TPCR19 protein	X89703cds RNTPCR19P R.norvegicus mRNA for TPCR19 protein			
X95986	12149	g19088 14		J04056	12150	P16152	80	Carbonyl reductase	X95986mRNA#1 R.norvegicus CBR gene /cds=(55,888) /gb=X95986 /gi=1217650 /ug=Rn.3425 /len=1012			
X96437	12152	No Rat Protein Found.		X96438	12153	CAA653 04	82	PRG1 gene (contains a transcription factor domain)	X96437mRNA RNPRG1 R.norvegicus PRG1 gene			
Y00396	12155	TVRTM C	12156	M13929	12157	I57605	90	Avian myelocytoma virus viral (v- myc) oncogene homolog	Y00396mRNA RNCMYC Rat c-myc oncogene and flanking regions			
Y07704	12158	CAA68 971	12159	BC017969	12160	XP_039 079	85.37	Best5 protein	Y07704 Rattus norvegicus BEST5 mRNA for hypothetical protein /cds=(5,1087) /gb=Y07704 /gi=3135886 /ug=Rn.14882 /len=3595			

Table 2.

Y09333	12162	O55171	12163	L40401	12164	P49753	12165	71	Mitochondrial very-long- chain acyl- CoA thioesterase	Y09333 R.norvegicus mRNA for mitochondrial very-long-chain acyl-CoA thioesterase /cds=(100,1461) /gb=Y09333 /gi=2832738 /ug=Rn.11326 /len=1711	Mitochondrial matrix	Acyl coenzyme A thioester hydrolase, mitochondrial precursor(EC 3.1.2.2) (Very- long-chain acyl- CoA thioesterase) (MTE-I).
Y16188	12168	CAA76 114	12167	Y16187	12168	CAA761 13	12169	90	XCE protein	Y16188 HSY16188 Rattus norvegicus mRNA for XCE protein, partial	INTRACELL- ULAR AND ASSOCIATE D WITH CELL SURFACE RECEPTOR S.	Alpha-2- macroglobulin receptor- associated protein precursor(Alpha- 2-MRAP) (Low density lipoprotein receptor-related protein- associated protein 1) (RAP) (GP330-binding 45 kDa protein) (Fragment).
Z11995	12170	Q99088	12171	AK027025	12172	P30533	12173	86	45kDa protein which binds to heyman nephritis antigen gp330	Z11995cds RN45KDB R.norvegicus mRNA encoding 45kDa protein which binds to heyman nephritis antigen gp330		
Z36276	12174	Q84595	12175	X94612	12176	JE0103	12177	88.68	cGMP dependent protein kinase type II	Z36276 R.norvegicus (Sprague-Dawley) GK II mRNA for cGMP dependent protein kinase II /cds=(47,2335) /gb=Z36276 /gi=556688 /ug=Rn.10443 /len=2890		cGMP- dependent protein kinase 2 (EC 2.7.1.37) (CGK 2) (cGKII) (Type IIcGMP- dependent protein kinase).

Table 2.

Z75029	12178	Q07439	12179	M24743	12180	I59139	98	Heat shock protein 70-1	Z75029 R.norvegicus hsp70.2 mRNA for heat shock protein 70 /cds=(0,37) /gb=Z75029 /gi=1483577 /ug=Rn.1850 /len=707
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Table 3.

Rat gene	Rat gene SEQ ID NO:	Rat Protein	Rat protein SEQ ID NO:	Human Genes	Human gene SEQ ID NO:	Human Protein	Human protein SEQ ID NO:	% homology	Identifier	Former Identifier	Description
AA799389	12181	NP_112353	12182	XM_001501		XP_001501		95	Rab3B protein	NM_031091	AA799389 EST18886 Rattus norvegicus cDNA, 5' end /clone=RHEAA70 /clone_end=5' /gb=AA799389 /gi=2862344 /ug=Rn.3788 /len=588
AB000517	12183	BAA22085	12184	XM_003308	12185	XP_003308	12186	86	CDP-diacylglycerol synthase		AB000517 Rattus sp. mRNA for CDP-diacylglycerol synthase, complete cds
AB003357	12187	BAA20077	12188	AL138761	12189	CAC00587	12190	68	Serine/threonine kinase 2		AB003357 Rat mRNA for protein kinase, complete cds
AB009463	12191	BAA32331	12192	AB009462	12193	BAA32330	12194	84	LRp105		AB009463 Rattus norvegicus mRNA for LRp105, complete cds
AB009463	12195	BAA32331	12196	AB009462	12197	BAA32330	12198	84	LRp105		Rattus norvegicus mRNA for LRp105, complete cds
AB010635	12199	BAA25692	12200	NM_003869	12201	NP_003860	12202	69	Carboxylesterase precursor		AB010635 Rattus norvegicus mRNA for carboxylesterase precursor, complete cds
AB015191	12203	NP_071950	12204	Z97026	12205	CAB09722	12206	52	Rhesus blood group	NM_022505	AB015191 Rattus norvegicus mRNA for Rh blood group protein, complete cds
AB015191	12207	NP_071950	12208	Z97026	12209	CAB09722	12210	52	Rhesus blood group	NM_022505	AB015191 Rattus norvegicus mRNA for Rh blood group protein, complete cds
AB015432	12211	BAA33035	12212	NM_003486	12213	NP_003477	12214	83	LAT1 (L-type amino acid transporter 1)		AB015432 Rattus norvegicus mRNA for LAT1 (L-type amino acid transporter 1), complete cds
AB016161	12215	Q8Z0U4	12216	AJ225028	12217	Q8UBS5	12218	97	Gamma-aminobutyric acid (GABA) B receptor, 1		AB016161UTR#1 Rattus norvegicus mRNA for GABAB receptor 1d, complete cds

Table 3.

AB016161	12219	Q9Z0U4	12220	AJ225028	12221	Q9UBS5	12222	97	Gamma-aminobutyric acid (GABA) B receptor, 1
AB016425	12223	BAA36681	12224	NM_002538	12225	NP_002529	12226	81	Ocludin
AB017596	12227	BAA33393	12228	AF110304	12229	AAF36094	12230	73	PC1 mRNA for plasma cell membrane glycoprotein, partial cds
AF000973	12231	AAB82740	12232	XM_012875	12233	XP_012875	12234	75	Calcium-activated potassium channel (SK1) mRNA
AF009604	12235	O35180	12236	X99664	12237	Q99963	12238	86	SH3 domain protein 2 C1
AF015911	12239	AAB69864	12240	AF395817	12241	AAK83885	12242	78	NAC-1 protein (NAC-1)
AF016247	12243	AAD01584	12244	X74764	12245	CAA62777	12246	87	Rattus norvegicus RTK40 homolog (tyro10) mRNA
AF016247	12247	AAD01584	12248	X74764	12249	CAA52777	12250	87	Rattus norvegicus RTK40 homolog (tyro10) mRNA
AB016161UTR#1									Rattus norvegicus mRNA for GABAB receptor 1d, complete cds
AB016425									Rattus norvegicus mRNA for ocludin, complete cds
AB017596									Rattus norvegicus PC1 mRNA for plasma cell membrane glycoprotein, partial cds
AF000973									Rattus norvegicus RNAF000973 Rattus norvegicus calcium-activated potassium channel (SK1) mRNA, complete cds
AF009604									Rattus norvegicus SH3p13 mRNA, partial cds /cds=(0,875) /gb=AF009604 /gi=2293469 /ug=Rn.5909 /len=1216
AF015911									Rattus norvegicus NAC-1 protein (NAC-1) mRNA, complete cds /cds=(134,1678) /gb=AF015911 /gi=2384731 /ug=Rn.11171 /len=2046
AF016247									Rattus norvegicus RTK40 homolog (tyro10) mRNA, complete cds
AF016247									Rattus norvegicus RTK40 homolog (tyro10) mRNA, complete cds

Table 3.

AF024712	12251	AAD05124	12252	X17273	12253	P17693	12254	69	MHC class Ib M4 (RT1.M4) pseudogene	AF024712cds Rattus norvegicus MHC class Ib M4 (RT1.M4) pseudogene, complete sequence
AF029357	12255	g2570935	12256	AL022727	12257	g3757726		48	Rattus norvegicus olfactory receptor-like protein gene, complete cds	AF029357cds Rattus norvegicus olfactory receptor-like protein gene, complete cds
AF030358	12258	AAC33834	12259	U84487	12260	AAB49679	12261	63	Rattus norvegicus chemokine CX3C mRNA, complete cds	AF030358 Rattus norvegicus chemokine CX3C mRNA, complete cds
AF030358	12262	AAC33834	12263	U84487	12264	AAB49679	12265	63	Rattus norvegicus chemokine CX3C mRNA, complete cds	Rattus norvegicus chemokine CX3C mRNA, complete cds
AF034896	12266	AAD01991	12267	NM_013941	12268	NP_038229	12269	57	Olfactory receptor-like protein (SCR D-8)	AF034896 Rattus norvegicus olfactory receptor-like protein (SCR D-8) mRNA, complete cds
AF034898	12270	JC5636	12271	L35475	12272	Q15062	12273	44	Rattus norvegicus olfactory receptor-like protein (SCR D-8) gene, complete cds	AF034898 Rattus norvegicus olfactory receptor-like protein (SCR D-8) gene, complete cds /cds=(0,985) /gb=AF034899 /gi=3153224 /ug=Rn.14522 /len=1086



Table 3.

AF034899	12274	JC5836	12275	L35475	12276	Q15062	12277	44	Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds	AF034899 Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds /cds=(0,965) /gb=AF034899 /gi=3153224 /ug=Rn.14522 /len=1086
AF034899	12278	JC5836	12279	L35475	12280	Q15062	12281	44	Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds	AF034899 Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds /cds=(0,965) /gb=AF034899 /gi=3153224 /ug=Rn.14522 /len=1086
AF034899	12282	JC5836	12283	L35475	12284	Q15062	12285	44	Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds	AF034899 Rattus norvegicus olfactory receptor-like protein (SCR D-9) gene, complete cds /cds=(0,965) /gb=AF034899 /gi=3153224 /ug=Rn.14522 /len=1086
AF034900	12286	AAC17224	12287	NM_013841	12288	NP_039229	12289	57	Olfactory receptor-like protein (SCR D-7)	AF034900mRNA Rattus norvegicus olfactory receptor-like protein (SCR D-7) gene, complete cds
AF035822	12280	AAC72291	12281	NM_004782	12292	NP_004773	12293	82	GS32	AF035822 Rattus norvegicus GS32 (GS32) mRNA, complete cds
AF039212	12284	AAB94937	12295	AF297093	12296	AAG30417	12297	64	UDP-glucuronosyltransferase 1A7 (UGT1A7) gene	AF039212mRNA Rattus norvegicus UDP-glucuronosyltransferase 1A7 (UGT1A7) gene, promoter and partial cds

Table 3.

AF039218	12298	T14039	12299	AC002563	12300	O14578	12301	98	Postsynaptic density protein (citron)	AF039218 Rattus norvegicus postsynaptic density protein (citron) mRNA, complete cds /cds=(612,5468) /gb=AF039218 /gi=2745839 /ug=Rn.10876 /len=5952
AF039308	12302	AAC28781	12303	NM_012413	12304	NP_036545	12305	84	Rattus norvegicus glutamyl cyclase mRNA, partial cds	AF039308 Rattus norvegicus glutamyl cyclase mRNA, partial cds
AF044910	12306	AAC01747	12307	NM_022875	12308	NP_075013	12309	64	survival motor neuron	AF044910 Rattus norvegicus survival motor neuron (smn) mRNA, complete cds /cds=(21,887) /gb=AF044910 /gi=2832312 /ug=Rn.1119 /len=1207
AF044910	12310	AAC01747	12311	NM_022875	12312	NP_075013	12313	64	survival motor neuron	AF044910 Rattus norvegicus survival motor neuron (smn) mRNA, complete cds /cds=(21,887) /gb=AF044910 /gi=2832312 /ug=Rn.1119 /len=1207
AF059678	12314	S02003	12315	L23320	12316	A49651	12317	75	Rattus norvegicus VIP-receptor-gene repressor protein mRNA, complete cds	Rattus norvegicus VIP-receptor-gene repressor protein mRNA, complete cds
AF060174	12318	AAC78628	12319	XM_051920		XP_051920		60	Synaptic vesicle protein 2C (SV2C) mRNA	AF060174 Rattus norvegicus synaptic vesicle protein 2C (SV2C) mRNA, complete cds
AF061266	12320	AAC67387	12321	U31110	12322	P48995	12323	88	Trp1 beta variant mRNA	AF061266 Rattus norvegicus trp1 beta variant mRNA, complete cds

Table 3.

AF061945	12324	AAD11811	12325	XM_042803	XP_042803	Rattus norvegicus NMDA receptor-like long variant mRNA, partial cds	79	AF061945 Rattus norvegicus NMDA receptor-like long variant mRNA, partial cds
AF061945	12326	AAD11811	12327	XM_042803	XP_042803	Rattus norvegicus NMDA receptor-like long variant mRNA, partial cds	79	AF061945 Rattus norvegicus NMDA receptor-like long variant mRNA, partial cds
AF061945	12328	AAD11811	12329	XM_042803	XP_042803	Rattus norvegicus NMDA receptor-like long variant mRNA, partial cds	79	AF061945 Rattus norvegicus NMDA receptor-like long variant mRNA, partial cds
AF061945	12330	AAD11811	12331	XM_042803	XP_042803	Rattus norvegicus NMDA receptor-like long variant mRNA, partial cds	79	AF061945 Rattus norvegicus NMDA receptor-like long variant mRNA, partial cds

Table 3.

AF062741	12332	AAC40168	12333	XM_043826	12334	Q8P2J9	12335	83	Rattus norvegicus pyruvate dehydrogenase phosphatase isoenzyme 2 mRNA, complete cds
AF063103	12336	AAC77816	12337	XM_034091		XP_034091		58	AF063103 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 3 (CIRL-3) mRNA, complete cds
AF063103	12338	AAC77816	12339	AF063103	12340	AAC77816	12341	93	AF063103 Rattus norvegicus calcium-independent alpha-latrotoxin receptor homolog 3 (CIRL-3) mRNA, complete cds
AF063302	12342	AAC72745	12343	U62733	12344	AAC51122	12345	72	AF063302mRNA#3 Rattus norvegicus carnitine palmitoyltransferase Ibeta 1, and carnitine palmitoyltransferase Ibeta 2, and carnitine palmitoyltransferase Ibeta 3 gene, nuclear gene encoding mitochondrial proteins, alternatively spliced products, partial cds
AF063302	12346	AAC72745	12347	U62733	12348	AAC51122	12349	72	AF063302mRNA#3 Rattus norvegicus carnitine palmitoyltransferase Ibeta 1, carnitine palmitoyltransferase Ibeta 2, and carnitine palmitoyltransferase Ibeta 3 gene, nuclear gene encoding mitochondrial proteins, alternatively spliced products, partial cds
AF064868	12350	AAC63267	12351	NM_020836	12352	NP_065887	12353	79	AF064868 Rattus norvegicus brain-enriched guanylate kinase-associated protein 1 mRNA, complete cds

Table 3.

AF065161	12354	AAC17502	12355	XM_002835	12356	XP_002835	87	cytokine-inducible SH2-containing protein	AF065161 Rattus norvegicus cytokine-inducible SH2-containing protein mRNA, partial cds /cds=(0,770) /gb=AF065161 /gi=3158431 /ug=Rn.14523 /len=803
AF076856	12356	AAC69563	12357	NM_031475	12358	NP_113663	97	Small espin mRNA	AF076856 Rattus norvegicus small espin mRNA, complete cds
AF079162	12360	AAC99398	12361	NM_000264	12362	NP_000255	92	Rattus norvegicus patched (ptc) mRNA, partial cds	AF079162 Rattus norvegicus patched (ptc) mRNA, partial cds
AF081148	12364	AAC62654	12365	AL157903	12366	CAC19786	81	CL2AA mRNA	AF081148 Rattus norvegicus CL2AA mRNA, complete cds
AF083341	12368	AAC32866	12369	AF025999	12370	AAB88802	92	Calcium-activated potassium channel (SLON-1) mRNA, partial cds	AF083341 Rattus norvegicus calcium-activated potassium channel (SLON-1) mRNA, partial cds
AF086758	12372	AAD08008	12373	NM_001046	12374	NP_001037	80	Na-K-2Cl cotransporter (Nkcc1)	AF086758 Rattus norvegicus Na-K-2Cl cotransporter (Nkcc1) mRNA, partial cds
AF089839	12376	AAF01051	12377	XM_032173	12378	XP_032173	91n	N-ethylmaleimide sensitive factor	AF089839 Rattus norvegicus N-ethylmaleimide sensitive factor mRNA, partial cds
AF089839	12380	AAF01051	12381	XM_032173	12382	XP_032173	91n	N-ethylmaleimide sensitive factor	Rattus norvegicus N-ethylmaleimide sensitive factor mRNA, partial cds
AF080134	12384	AAC78073	12385	NM_004684	12386	NP_004655	88	Rattus norvegicus lin-7-Ba mRNA, complete cds	AF080134 Rattus norvegicus lin-7-Ba mRNA, complete cds

Table 3.

AF090692	12388	AAC36317	12389	NIM_005492	12390	NP_005483	12391	62	Cystatin-related epididymal spermatogenic protein (CRES) mRNA, complete cds	AF090692 Rattus norvegicus cystatin-related epididymal spermatogenic protein (CRES) mRNA, complete cds
AF090692	12392	AAC36317	12393	NIM_005492	12394	NP_005483	12395	62	Cystatin-related epididymal spermatogenic protein (CRES) mRNA, complete cds	AF090692 Rattus norvegicus cystatin-related epididymal spermatogenic protein (CRES) mRNA, complete cds
AF091563	12398	AAC64586	12397	AF321237	12398	AAG45205	12399	49	Rattus norvegicus isolate QIL-LD1 olfactory receptor	AF091563 Rattus norvegicus isolate QIL-LD1 olfactory receptor mRNA, partial cds
AF091563	12400	AAC64586	12401	AF321237	12402	AAG45205	12403	49	Rattus norvegicus isolate QIL-LD1 olfactory receptor	AF091563 Rattus norvegicus isolate QIL-LD1 olfactory receptor mRNA, partial cds
AF091563	12404	AAC64586	12405	AF321237	12406	AAG45205	12407	49	Isolate QIL-LD1 olfactory receptor mRNA	AF091563 Rattus norvegicus isolate QIL-LD1 olfactory receptor mRNA, partial cds
AF091563	12408	AAC64586	12409	AF321237	12410	AAG45205	12411	49	Isolate QIL-LD1 olfactory receptor mRNA	AF091563 Rattus norvegicus isolate QIL-LD1 olfactory receptor mRNA, partial cds

Table 3.

AF091578	12412	AAC64598	12413	NM_006637	12414	NP_006628	12415	47	Rattus norvegicus isolate EVA-TN1 olfactory receptor mRNA, partial cds	AF091578 Rattus norvegicus isolate EVA-TN1 olfactory receptor mRNA, partial cds
AF092523	12416	AAC61775	12417	BC000729	12418	AAH00729	12419	44	A-kinase anchor protein 84 mRNA	AF092523 Rattus norvegicus A-kinase anchor protein 84 mRNA, complete cds
AF092523	12420	AAC61775	12421	BC000729	12422	AAH00729	12423	44	A-kinase anchor protein 84 mRNA	AF092523 Rattus norvegicus A-kinase anchor protein 84 mRNA, complete cds
AF096291	12424	1AF3	12425	U59747	12426	Q92843	12427	98	APOPTOSIS REGULATORY BCL-W	Rattus norvegicus Bcl-w (bcl-w) mRNA, complete cds
AF097887	12428	AAC69198	12429	NP_067028		NP_067028	12430	61	Chp	AF097887 Rattus norvegicus Chp mRNA, complete cds
AF104398	12431	AAC98389	12432	NM_004143	12433	NP_004134	12434	61	Rattus norvegicus melanocyte-specific gene 1 protein (msg1) mRNA, complete cds	AF104398 Rattus norvegicus melanocyte-specific gene 1 protein (msg1) mRNA, complete cds

Table 3.

AF104389	12435	AAC98389	12436	NM_004143	12437	NP_004134	12438	61	Rattus norvegicus melanocyte-specific gene 1 protein (msg1) mRNA, complete cds	AF104389 Rattus norvegicus melanocyte-specific gene 1 protein (msg1) mRNA, complete cds
AJ005046	12439	CAA06313	12440	NM_003837	12441	NP_003828	12442	95	Rattus norvegicus mRNA for muscle fructose-1,6-bisphosphatase	AJ005046 Rattus norvegicus mRNA for muscle fructose-1,6-bisphosphatase
AJ011115	12443	CAA09493	12444	XM_004684		XP_004684		98	Rattus norvegicus mRNA for endothelial nitric oxide synthase, 5' region, partial	AJ011115 RNO011115 Rattus norvegicus mRNA for endothelial nitric oxide synthase, 5' region, partial
AJ011115	12445	CAA09493	12446	XM_004684		XP_004684		98	Rattus norvegicus mRNA for endothelial nitric oxide synthase, 5' region, partial	AJ011115 RNO011115 Rattus norvegicus mRNA for endothelial nitric oxide synthase, 5' region, partial



Table 3.

D00569	12447	Q64591	12448	L26050	12449	Q16698	12450	81	Rattus norvegicus mRNA for 2,4-dienoyl-CoA reductase precursor, complete cds	D00569 Rat mRNA for 2,4-dienoyl-CoA reductase (EC 1.3.1.34) /cds=(18,1025) /gb=D00569 /gi=220731 /ug=Rn.2854 /len=1118
D00569	12451	Q64591	12452	L26050	12453	Q16698	12454	81	Rattus norvegicus mRNA for 2,4-dienoyl-CoA reductase precursor, complete cds	Rat mRNA for 2,4-dienoyl-CoA reductase (EC 1.3.1.34) /cds=(18,1025) /gb=D00569 /gi=220731 /ug=Rn.2854 /len=1118
D00569	12455	Q64591	12456	L26050	12457	Q16698	12458	81	Rattus norvegicus mRNA for 2,4-dienoyl-CoA reductase precursor, complete cds	Rat mRNA for 2,4-dienoyl-CoA reductase (EC 1.3.1.34) /cds=(18,1025) /gb=D00569 /gi=220731 /ug=Rn.2854 /len=1118
D00729	12459	BAA00629	12460	XM_028848	12461	XP_028848	12462	53	Delta3, delta2-enoyl-CoA isomerase; SEVERAL EXONS; ONLY 1 & 2 LISTED ON THIS SHEET	D00729 Rat mRNA for delta3, delta2-enoyl-CoA isomerase /cds=(77,973) /gb=D00729 /gi=220733 /ug=Rn.24989 /len=1060



Table 3.

D14819	12486	BAA03557	12487	NIM_016257	12488	NP_057341	12489	97	Rat mRNA for calcium-binding protein P23k beta, partial cds	D14819 RATCBPP23B Rat mRNA for calcium-binding protein P23k beta, partial cds
D14987	12490	BAA03632	12491	L20000	12492	AAA35758	12493	60	Rat hydroxysteroid sulfotransferase mRNA, complete cds	rc_AA945589 EST201088 Rattus norvegicus cDNA, 3' end /clone=RLIAP44 /clone_end=3' /gb=AA945589 /ug=Rn.2151 /len=569
D14987	12494	BAA03632	12495	L20000	12496	AAA35758	12497	60	Rat hydroxysteroid sulfotransferase mRNA, complete cds	EST201088 Rattus norvegicus cDNA, 3' end /clone=RLIAP44 /clone_end=3' /gb=AA945589 /ug=Rn.2151 /len=569
D16443	12498	BAA03912	12499			Null			Prostaglandin E2 receptor EP3 subtype isoform	D16443 RATREP3B Rat mRNA for prostaglandin E2 receptor EP3 subtype isoform, complete cds
D16443	12500	BAA03912	12501			Null			Prostaglandin E2 receptor EP3 subtype isoform	D16443 RATREP3B Rat mRNA for prostaglandin E2 receptor EP3 subtype isoform, complete cds
D17370	12502	CAA37547	12503	S52784	12504	P32929	12505	82	CTL target antigen	RATCGL Rat mRNA for cystathionine gamma-lyase, complete cds
D17695	12506	BAA04559	12507	NIM_004925	12508	NP_004916	12509	94	Water channel aquaporin 3 (AQP3)	D17695 RATAQP3 Rat mRNA for water channel aquaporin 3 (AQP3), complete cds



Table 3.

D84480	12542	NM_000989	12543	NP_000980	12544				Rat PMSG-Induced ovarian mRNA, 3'sequence, N2	92					D84480 RATPMSG Rat PMSG-induced ovarian mRNA, 3'sequence, N2
D84482	12545	XM_047666		XP_047666					Rat PMSG-Induced ovarian mRNA, 3'sequence, N4	87n					D84482 RAT3HN4 Rat PMSG-induced ovarian mRNA, 3'sequence, N4
D84667	12546	BAA18969	12547	U81802	12548	AAC51156	12549		Phosphatidylinositol 4-kinase	93					D84667 Rattus norvegicus mRNA for phosphatidylinositol 4-kinase, complete cds
D86580	12550	BAA13127	12551	NM_021969	12552	NP_068804	12553		Rattus norvegicus mRNA for small heterodimer partner homolog	75					D86745cds S1 Rat DNA for small heterodimer partner homologue, exon 1
D86580	12554	BAA13127	12555	NM_021969	12556	NP_068804	12557		Rattus norvegicus mRNA for small heterodimer partner homolog	75					D86745cds S1 Rat DNA for small heterodimer partner homologue, exon 1
D87840	12558	BAA25260	12559	XM_054716		XP_054716			Madcam 1	54					D87840 Rattus norvegicus mRNA for madcam 1, complete cds /cds=(13,1197) /gb=D87840 /gi=2982666 /ug=Rn.9906 /len=1279
D88586	12560	P70709	12561	X15161	12562	P12724	12563		Rat mRNA for eosinophil cationic protein, complete cds	55					D88586 Rat mRNA for eosinophil cationic protein, complete cds /cds=(63,530) /gb=D88586 /gi=1669582 /ug=Rn.10626 /len=711

Table 3.

D89514	12564	BAA22837	12565	D82348	12566	BAA11559	12567	91	5-aminimidazole-4-carboxamide ribonucleotide formyltransferase/IMP cyclohydrolase	D89514 Rattus norvegicus mRNA for 5-aminimidazole-4-carboxamide ribonucleotide formyltransferase/IMP cyclohydrolase, complete cds /cds=(55,1833) /gb=D89514 /g=2541805 /ug=Rn.11052 /len=1928
D90048	12568	BAA14101	12569	NM_001678	12570	NP_001669	12571	100	Na <sup>+</sup> ,K <sup>+</sup> -ATPase beta2 subunit	D90048exon RATATPB2S Rat Na <sup>+</sup> , K <sup>+</sup> -ATPase (EC 3.6.1.3) beta2 subunit gene and 5' flank
D90048	12572	BAA14101	12573	NM_001678	12574	NP_001669	12575	100	Na <sup>+</sup> ,K <sup>+</sup> -ATPase beta2 subunit	D90048exon RATATPB2S Rat Na <sup>+</sup> , K <sup>+</sup> -ATPase (EC 3.6.1.3) beta2 subunit gene and 5' flank
J00692	12576	CAA24529	12577	NM_001100	12578	NP_001091	12579	100	actin	J00692 Rat skeletal muscle alpha-actin gene, complete cds /cds=(12,1145) /gb=J00692 /g=202690 /ug=Rn.11381 /len=1384
J00797	12580	AAA42306	12581	AF141347	12582	AAD33871	12583	97	Rat alpha-tubulin gene, exon 1	J00797cds RATTUBAL1 Rat alpha-tubulin gene, exon 1
J01435	12584			Null					Mitochondrial genome - cytochrome oxidase	J01435cds#8 RATMTCYOS Rattus norvegicus mitochondrial cytochrome oxidase subunits I, II, III genes, ATPase subunit 6 gene, Trp-Ala-Asn-Cys-Tyr-Ser(unc)-Asp-Lys-Gly-Arg-His-Ser(agg)-Leu(cun)-tRNAs
J02596	12585	AAA40746	12586	NM_000040	12587	NP_000031	12588	44	apolipoprotein C-III	J02596cds RATAPOAD2 Rat apolipoprotein C-III gene, complete cds

Table 3.

J02749	12599	JT0551	12590	X12966	12591	XUHUAB	12592	86	Acetyl-CoA acyltransferase, 3-oxo acyl-CoA thiolase A, peroxisomal	J02749 Rat peroxisomal 3-ketoacyl-CoA thiolase mRNA, complete cds /cds=(25,1299) /gb=J02749 /gi=205096 /ug=Rn.8913 /len=1560
J02749	12593	JT0551	12594	X12966	12595	XUHUAB	12596	86	Acetyl-CoA acyltransferase, 3-oxo acyl-CoA thiolase A, peroxisomal	J02749 Rat peroxisomal 3-ketoacyl-CoA thiolase mRNA, complete cds /cds=(25,1299) /gb=J02749 /gi=205096 /ug=Rn.8913 /len=1560
J03179	12597	AAA41083	12598	NIM_001352	12599	NP_001343	12600	68	D-binding protein	J03179 Rat D-binding protein mRNA, complete cds /cds=(367,1344) /gb=J03179 /gi=203942 /ug=Rn.11274 /len=1622
J03179	12601	AAA41083	12602	NIM_001352	12603	NP_001343	12604	68	D-binding protein	J03179 Rat D-binding protein mRNA, complete cds /cds=(367,1344) /gb=J03179 /gi=203942 /ug=Rn.11274 /len=1622
J03637	12605	AAA40713	12606	BC004370	12607	AAH04370	12608	81	Aldehyde dehydrogenase	J03637 Rat aldehyde dehydrogenase mRNA, complete cds /cds=(173,1534) /gb=J03637 /gi=202832 /ug=Rn.9810 /len=1725
J03806	12609	A31317	12610	M34667	12611	P19174	12612	96	Phospholipase C, gamma 1	J03806 Rat phospholipase C mRNA, complete cds /cds=(94,3966) /gb=J03806 /gi=205323 /ug=Rn.11243 /len=5106
J03914	12613	AAA41296	12614	XM_002155	12615	XP_002155	12616	80	Rat glutathione S- transferase Y- b subunit mRNA, 3' end	J02592 Rat glutathione S-transferase Y-b subunit mRNA, 3' end /cds=(0,560) /gb=J02592 /gi=204498 /ug=Rn.625 /len=909
J04591	12617	AAA41096	12618	M80536	12619	AAA52308	12620	81	Dipeptidyl peptidase IV	J04591 Rat dipeptidyl peptidase IV (DPP) mRNA, complete cds /cds=(68,2391) /gb=J04591 /gi=203973 /ug=Rn.1862 /len=4835

Table 3.

J04807	12621	NP_062003	12622	NM_000207	12623	NP_000198	12624	84	Rattus norvegicus Insulin 2	NM_019130	J04807 mRNA RATINSIIA Rat Insulin II gene mRNA, 3' end
K03045	12625	AAB06955	12626	NM_006744	12627	NP_006735	12628	87	Retinol-binding protein	U63146	K03045cds RATRBP02 Rat retinol-binding protein (RBP) gene, exon 5
K03045	12629	AAB06955	12630	NM_006744	12631	NP_006735	12632	85	Retinol-binding protein	U63146	K03045cds RATRBP02 Rat retinol-binding protein (RBP) gene, exon 5
L00088	12633	AAA98533	12634	XM_030823	12635	XP_030823	12636	85	myosin light chain		L00088expanded_cds#2 Rat fast myosin alkali light chain /cds=(75,527) /gb=L00088 /gi=205473 /ug=Rn.6647 /len=810
L01702	12637	AAA41983	12638	X53364	12639	CAA37447	12640	89	Tyrosine-phosphatase (LRP)		L01702 Rat protein-tyrosine-phosphatase (LRP) mRNA, complete cds /cds=(10,2400) /gb=L01702 /gi=206492 /ug=Rn.18043 /len=2835
L03294	12641	Q06000	12642	M15856	12643	LIHUL	12644	92	Lipoprotein lipase		L03294 Rattus norvegicus lipoprotein lipase mRNA, complete cds /cds=(174,1598) /gb=L03294 /gi=205214 /ug=Rn.3834 /len=3617
L03294	12645	Q06000	12646	M15856	12647	LIHUL	12648	92	Lipoprotein lipase		L03294 Rattus norvegicus lipoprotein lipase mRNA, complete cds /cds=(174,1598) /gb=L03294 /gi=205214 /ug=Rn.3834 /len=3617
L03294	12649	Q06000	12650	M15856	12651	LIHUL	12652	92	Lipoprotein lipase		Rattus norvegicus lipoprotein lipase mRNA, complete cds /cds=(174,1598) /gb=L03294 /gi=205214 /ug=Rn.3834 /len=3617
L04485	12653	AAA41571	12654	NM_002755	12655	NP_002746	12656	90	MAP kinase		L04485 mRNA RATMAPKK Rattus norvegicus MAP kinase mRNA, complete cds
L05557	12657	AAB60703	12658	J04027	12659	P20020	12660	57	Rat plasma membrane calcium ATPase Isoform 2 gene, exon n+3 and partial cds		L05557cds RATPMCA2A4 Rat plasma membrane calcium ATPase Isoform 2 gene, exon n+3 and partial cds



Table 3.

L05557	12661	AAB60703	12662	XM_052353	12663	XP_052353	12664	98	plasma membrane calcium ATPase	L05557cds RATPMCA2A4 Rat plasma membrane calcium ATPase isoform 2 gene, exon n+3 and partial cds
L07315	12665	AAA41094	12666	NM_004413	12667	NP_004404	12668	71	Dipeptidase 1	L07315 Rat dipeptidase (dpep1) mRNA, complete cds /cds=(128,1361) /gb=L07315 /gi=459832 /ug=Rn.6051 /len=2179
L08493	12669	AAC42032	12670	NM_000809	12671	NP_000800	12672	79	GABA-A receptor alpha-4 subunit gene, complete cds	L08493cds RATGABAAE Rattus rattus GABA-A receptor alpha-4 subunit gene, complete cds
L10152	12673	XM_029358		XP_029358				86n	System y+ basic (cationic) amino acid transporter	L10152 RATCAATRA Rattus norvegicus system y+ basic (cationic) amino acid transporter mRNA, mature peptide
L11587	12674	AAC37656	12675	XM_016527		XP_016527		65	Rat leukocyte common antigen- related phosphatase (LAR-PTP2)	L11587 Rat leukocyte common antigen- related phosphatase (LAR-PTP2) mRNA, complete cds /cds=(184,5775) /gb=L11587 /gi=205134 /ug=Rn.17237 /len=6469
L13202	12676	AAA41319	12677	NM_012183	12678	NP_036315	12679	100	HNF-3/fork- head homolog-2 [Rattus norvegicus] BLink	L13202 RATHFH2 Rattus norvegicus HNF-3/fork-head homolog-2 (HFH-2) mRNA, complete cds
L13202	12680	AAA41319	12681	NM_012183	12682	NP_036315	12683	100	HNF-3/fork- head homolog-2 [Rattus norvegicus] BLink	L13202 RATHFH2 Rattus norvegicus HNF-3/fork-head homolog-2 (HFH-2) mRNA, complete cds



Table 3.

L20823	12706	AAA03044	12707	NM_001980	12708	NP_001971	12709	83	syntaxin 2.	L20823 Rattus norvegicus syntaxin 2 mRNA, complete cds /cds=(0,872) /gb=L20823 /gi=349312 /ug=Rn.10823 /len=911
L22655	12710	AAA91898	12711	AB022653	12712	751423A			Ig kappa chain	L22655 Rat anti-acetylcholine receptor antibody gene, kappa-chain, VJC region, complete cds /cds=(20,736) /gb=L22655 /gi=1220489 /ug=Rn.1749 /len=934
L23088	12713	AAA60325	12714	AL022146	12715	CAA18143	12716	73	P-selectin	L23088 Rattus norvegicus P-selectin mRNA, complete cds /cds=(18,2324) /gb=L23088 /gi=349552 /ug=Rn.10012 /len=3185
L24897	12717	AAA72046	12718	XM_052590	12719	XP_052590	12720	86	myosin heavy chain	L24897 Rattus norvegicus myosin heavy chain mRNA, 3' end /cds=(0,548) /gb=L24897 /gi=406108 /ug=Rn.10092 /len=649
L26525	12721	AAA21089	12722	XM_004559		XP_004559		80	tyrosine kinase receptor (Ptk-3) gene	L26525 Rattus norvegicus tyrosine kinase receptor (Ptk-3) gene, complete cds /cds=(0,2732) /gb=L26525 /gi=432480 /ug=Rn.7807 /len=2733
L26913	12723	AAA16478	12724	U10307	12725	AAA63738	12726	55	Rattus Norvegicus Interleukin-13 (IL-13)	L26913 Rattus Norvegicus Interleukin-13 (IL-13) mRNA, complete cds /cds=(0,395) /gb=L26913 /gi=438875 /ug=Rn.9821 /len=443
L27075	12727			Null					ATP-citrate lyase	L27075 Rat ATP-citrate lyase mRNA, exons 1-7 /cds=UNKNOWN /gb=L27075 /gi=436002 /ug=Rn.986 /len=13553
L27651	12728	AAA57157	12729	AF097516	12730	AAD37091	12731	79	Solute carrier family 22 (organic anion transporter), member 7	L27651 Rattus norvegicus liver-specific transport protein mRNA, complete cds /cds=(73,1680) /gb=L27651 /gi=528689 /ug=Rn.10009 /len=1910

Table 3.

L27651	12732	AAA57157	12733	AF097518	12734	AAD37091	12735	79	Solute carrier family 22 (organic anion transporter), member 7	Rattus norvegicus liver-specific transport protein mRNA, complete cds /cds=(73,1680) /gb=L27651 /gi=528589 /ug=Rn.10009 /len=1910
L31619	12736	AAC33138	12737	NM_000746	12738	NP_000737	12739	87	Cholinergic receptor, nicotinic, alpha polypeptide 7 (neuronal nicotinic acetylcholine receptor alpha 7) (bungarotoxin alpha)	Rattus rattus nicotinic acetylcholine receptor alpha 7 subunit mRNA, complete cds /cds=(22,1530) /gb=L31619 /gi=468919 /ug=Rn.9688 /len=2105
L32801	12740	P51652	12741	D17783	12742	P42330	12743	71	Rat mRNA for 20-alpha-hydroxysteroid dehydrogenase (20-alpha-HSD), complete cds	L32801 RAT20AHYDE Rat 20 alpha-hydroxysteroid dehydrogenase mRNA, complete cds
L35921	12744	AAA73553	12745	NM_033258	12746	NP_150283	12747	98	GTP-binding protein gamma subunit	L35921 Rattus norvegicus GTP-binding protein gamma subunit (Ggamma6) mRNA, complete cds /cds=(220,432) /gb=L35921 /gi=625158 /ug=Rn.11233 /len=560

Table 3.

L47281	12748	AAB72238	12749	NM_000091	12750	NP_000082	12751	91	Rattus norvegicus alpha-3 type IV collagen (COL4A3) mRNA, partial cds
L81136	12752	AAB61953	12753	XM_034464		XP_034464		62	L81136cds RATRPS2R1A Rattus norvegicus (strain R21) Rps2r1 preliminary DNA, complete cds
M10068	12754	AAA41064	12755	AB051763	12756	BAB18572	12757	90	M10068mRNA RATCYPOXM Rat NADPH-cytochrome P-450 oxidoreductase mRNA, complete cds
M10094	12758	IS4531		IS38874	12759	Null		75	M10094 Rat MHC class I truncated cell surface antigen mRNA /cds=(0.320) /gb=M10094 /gi=M10094 /gl=205412 /ug=Rn.3577 /len=628
M10094	12760	IS4531		IS38874	12761	IS38874		75	Rat MHC class I truncated cell surface antigen mRNA /cds=(0.320) /gb=M10094 /gi=205412 /ug=Rn.3577 /len=628
M10140	12762	AAA40935	12763	XM_030967	12764	XP_030967	12765	89	M10140 Rat skeletal muscle creatine kinase composite mRNA, complete cds /cds=(69,1214) /gb=M10140 /gi=203477 /ug=Rn.10756 /len=1410
M11266	12766	AAA41767	12767	NM_000531	12768	NP_000522	12769	91	M11266 Rat ornithine transcarbamylase mRNA /cds=(100,1164) /gb=M11266 /gi=205871 /ug=Rn.2391 /len=1519

Table 3.

M11851	12770	AAA41621	12771	AF020768	12772	AAB91993	12773	87	Rat heart myosin light chain 2 (MLC2) mRNA, 3' end	Rat heart myosin light chain 2 (MLC2) mRNA, 3' end /cds=(41,538) /gb=M11851 /gi=206476 /ug=Rn.17003 /len=610
M12579	12774	AAA41263	12775	X01059	12776	CAA25526	12777	71	hypothalamic gonadotropin-releasing hormone and prolactin release-inhibiting factor	M12579 Rat hypothalamic gonadotropin-releasing hormone and prolactin release-inhibiting factor mRNA, complete cds /cds=(32,310) /gb=M12579 /gi=204445 /ug=Rn.9922 /len=456
M15427	12778	AAA42001	12779	NM_002880	12780	NP_002871	12781	95	raf protein	M15427 Rat c-raf protooncogene mRNA encoding raf protein, complete cds /cds=(40,1986) /gb=M15427 /gi=206544 /ug=Rn.5936 /len=2524
M15481	12782	AAA41387	12783	XM_052852	12785	XP_052852	12786	92	Insulin-like growth factor I (IGF-I)	M15481 Rat insulin-like growth factor I (IGF-I) mRNA, complete cds /cds=(783,1176) /gb=M15481 /gi=204753 /ug=Rn.8282 /len=1348
M18528	12784	AAA41404		S65921	12785	AAB28160	12786	70	Immunoglobulin kappa-chain	M18528cds RATIGKAG Rat (R.leucopus cooktownensis) Ig germline kappa-chain C-region gene, 3' end
M18853	12787	AAA42207		M15565	12788	AAA60827	12789	55	T-cell receptor alpha-chain C-region precursor	L37866 mRNA RATTORAK Rattus norvegicus T-cell receptor alpha-chain mRNA
M18853	12790	AAA42207		M15565	12791	AAA60827	12792	55	T-cell receptor alpha-chain C-region precursor	L37866 mRNA RATTORAK Rattus norvegicus T-cell receptor alpha-chain mRNA

Table 3.

M19357	12793	AAA40988	12784	NM_006891	12785	NP_008822	12786	76	Rat gamma-F-crystallin (gamma 4-1) gene, complete cds	M19357cds RATCRYGF Rat gamma-F-crystallin (gamma 4-1) gene, complete cds
M19359	12797	P10065	12798	M17315	12789	P11844	12800	83	Gamma-A-crystallin gene	M19359mRNA#2 Rat gamma-crystallin gene cluster, encoding gamma-A (gamma 1-1), gamma-B (gamma 1-2), gamma-C (gamma 2-1), gamma-D (gamma 2-2), and gamma-E (gamma 3-1) crystallins, complete cds /cds=(27,551) /gb=M19359 /gl=203628 /ug=Rn.10805 /len=618
M19359	12801	AAA40981	12802	XM_002458		XP_002458		83	Gamma-A-crystallin	X14115 Rat DNA for B2 repeat (1-12) from gamma crystallin gene cluster.
M19359	12803	P10065	12804	M17315	12805	P11844	12806	83	Gamma-A-crystallin gene	M19359mRNA#2 Rat gamma-crystallin gene cluster, encoding gamma-A (gamma 1-1), gamma-B (gamma 1-2), gamma-C (gamma 2-1), gamma-D (gamma 2-2), and gamma-E (gamma 3-1) crystallins, complete cds /cds=(27,551) /gb=M19359 /gl=203628 /ug=Rn.10805 /len=618
M19359	12807	AAA40981	12808	XM_002458		XP_002458		83	gamma-A-crystallin	X14115 Rat DNA for B2 repeat (1-12) from gamma crystallin gene cluster.
M22366	12809	AAA42083	12810	X00033	12811	CAA24917	12812	67	MHC RT1.B-alpha precursor	X07551cds RNRT1BA2 Rat MHC RT1.B-alpha gene for class II antigen exons 2-5
M22670	12813	NP_036620	12814	XM_006925	12815	XP_006925	12816	70	Rat alpha-2-macroglobulin gene, exons 5 and 6	M22670cds RATMGAA24 Rat alpha-2-macroglobulin gene, exons 5 and 6
M22670	12817	NP_036620	12818	XM_006925	12819	XP_006925	12820	70	Rat alpha-2-macroglobulin gene, exons 5 and 6	M22670cds RATMGAA24 Rat alpha-2-macroglobulin gene, exons 5 and 6

Table 3.

M22993	12821	AAA78025	12822	NIM_002864	12823	NP_002855	12824	60	Alpha-1-Inhibitor III	J03552	M22993cds RATA1INH3Z Rattus norvegicus alpha-1 inhibitor III (alpha-1-13) gene, exons 1-3
M23889	12825	AAA42217		AJ301409	12828	CAC34114		67	Rat T-cell receptor beta chain mRNA V-region (V-D-J-C), clone CRTB188		M23889 RATTCEBI Rat T-cell receptor beta-chain mRNA V-region (V-D-J-C), clone CRTB188
M23889	12827	AAA42217		AJ301409	12828	CAC34114		67	Rat T-cell receptor beta chain mRNA V-region (V-D-J-C), clone CRTB188		M23889 RATTCEBI Rat T-cell receptor beta-chain mRNA V-region (V-D-J-C), clone CRTB188
M23890	12829	AAA42218		U66061	12830	AAC80215		81	Rat T-cell receptor unproductive beta-chain mRNA V-region (V-D-J-C), clone CRTB320		M23890 Rat T-cell receptor unproductive beta-chain mRNA V-region (V-D-J-C), clone CRTB320 /cds=(0,328) /gb=M23890 /gi=207211 /ug=Rn.9951 /len=372
M23995	12831	AAA40718	12832	M31994	12833	P00352	12834	78	Aldehyde dehydrogenase mRNA, complete cds		M23995 Rat aldehyde dehydrogenase mRNA, complete cds /cds=(45,1550) /gb=M23995 /gi=202845 /ug=Rn.9811 /len=2024
M23995	12835	AAA40718	12836	M31994	12837	P00352	12838	78	Aldehyde dehydrogenase mRNA, complete cds		M23995 Rat aldehyde dehydrogenase mRNA, complete cds /cds=(45,1550) /gb=M23995 /gi=202845 /ug=Rn.9811 /len=2024



Table 3.

M25350	12839	AAB96560	12840	XM_040630	XP_040630	12845	NP_068370	12846	98	Rat cAMP phosphodiesterase (PDE4)	U95748	M25350 RATPHOCAMB Rat cAMP phosphodiesterase (PDE4) mRNA, partial cds
M25350	12841	AAB96560	12842	XM_040630	XP_040630				98	Rat cAMP phosphodiesterase (PDE4)	U95748	RATPHOCAMB Rat cAMP phosphodiesterase (PDE4) mRNA, partial cds
M25804	12843	AAA74939	12844	NM_021724	NP_068370	12845		12846	88	Rev-erbA-alpha protein		M25804 Rat Rev-ErbA-alpha protein mRNA, complete cds /cds=(501,2027) /gb=M25804 /gi=514983 /ug=Rn.10105 /len=2297
M25804	12847	AAA74939	12848	NM_021724	NP_068370	12849		12850	88	Rev-erbA-alpha protein		M25804 Rat Rev-ErbA-alpha protein mRNA, complete cds /cds=(501,2027) /gb=M25804 /gi=514983 /ug=Rn.10105 /len=2297
M27293	12851	AAA41384	12852	NM_000875	NP_000866	12853		12854	94	Insulin-like growth factor-I receptor (IGF-I)		M27293 RATIGFI Rat Insulin-like growth factor-I receptor (IGF-I), complete cds
M31032	12855	AAA40869	12856	NM_007244	NP_009175	12857		12858	84n	Rat contiguous repeat polypeptides (CRP) mRNA, complete cds		M31032mRNA#2 RATCRP01 Rat contiguous repeat polypeptides (CRP) mRNA, complete cds
M31032	12859	AAA40869	12860	NM_007244	NP_009175	12861		12862	84n	Rat contiguous repeat polypeptides (CRP) mRNA, complete cds		M31032mRNA#2 RATCRP01 Rat contiguous repeat polypeptides (CRP) mRNA, complete cds
M31725	12863	AAA42201	12864	NM_005076	NP_005067	12865		12866	86	Rat axonal glycoprotein (TAG-1)		M31725 Rat axonal glycoprotein (TAG-1), mRNA, complete cds /cds=(223,3345) /gb=M31725 /gi=207148 /ug=Rn.8945 /len=5040

Table 3.

M33312	12867	P11711	12868	U22028	12869	Q16696	12870	71	Cytochrome P450 IIA1 (hepatic steroid hydroxylase IIA1) gene	M33312cds RATCYP2A1 Rat hepatic steroid hydroxylase IIA1 (CYP2A1) gene, complete cds
M34134	12871	P18342	12872	M19713	12873	P09493	12874	94	Tropomyosin 1 (alpha)	M34134 Rat brain alpha-tropomyosin (TMBI-2) mRNA, complete cds /cds=(136,891) /gb=M34134 /gi=207358 /ug=Rn.1033 /len=1004
M34238	12875	AAA40889	12876	NM_002505	12877	NP_002498	12878	55	CCAAT binding transcription factor-B subunit (CBF-B)	M34238 Rat CCAAT binding transcription factor-B subunit (CBF-B) mRNA, complete cds /cds=(170,1195) /gb=M34238 /gi=203356 /ug=Rn.10747 /len=1415
M35270	12879	AAA42169	12880	NM_000030	12881	NP_000021	12882	76	Alanine-glyoxylate aminotransferase (Serine-pyruvate aminotransferase)	M35270completeSeq RATSPA Rat serine pyruvate aminotransferase mRNA, complete cds
M35270	12883	AAA42169	12884	NM_000030	12885	NP_000021	12888	76	Alanine-glyoxylate aminotransferase (Serine-pyruvate aminotransferase)	M35270completeSeq RATSPA Rat serine pyruvate aminotransferase mRNA, complete cds
M36151	12887	AAA41612	12888	M81141	12889	AAA59772	12890	77	MHC class II A-beta RT1.B-beta gene	M36151cds RATMHR1B Rat MHC class II A-beta RT1.B-beta gene, partial cds
M37482	12891	AAA41436	12892	NM_002192	12893	NP_002183	12894	No Human A	Inhibin beta-A	M37482 Rat Inhibin beta-A-subunit mRNA, complete cds /cds=(162,1436) /gb=M37482 /gi=204936 /ug=Rn.9874 /len=1543

Table 3.

M57672	12895	AAA57295	12896	X60069	12897	P19440	12898	71	Rat gamma-glutamyl transpeptidase mRNA, complete cds, clone 12	M57672mRNA#2 Rat gamma-glutamyltransferase gene, 5' end /cds=(275,300) /gb=M57672 /gi=204304 /ug=Rn.10010 /len=301
M58287	12899	AAA41726	12900	XM_038856		XP_038856		83	Rat non-specific lipid transfer protein (nsL-TP) mRNA, 3' end	M58287 RATNSLTP Rat non-specific lipid transfer protein (nsL-TP) mRNA, 3' end
M58495	12901	AAA41989	12902	NM_000903	12903	NP_000894	12904	82	R.norvegicus NAD(P)H: quinone reductase	M58495mRNA RATQUINA R.norvegicus NAD(P)H: quinone reductase mRNA, complete cds
M61219	12905	AAA63500	12906	NIM_002634	12907	NP_002625	12908	93	prohibitin	M61219 Rat prohibitin (phb) mRNA, complete cds /cds=(11,829) /gb=M61219 /gi=206383 /ug=Rn.719 /len=1688
M62388	12909	AAA21087	12910	X53251	12911	CAA37339	12912	100	Ubiquitin conjugating enzyme	M62388 RATUCE Rattus norvegicus ubiquitin conjugating enzyme mRNA, complete cds
M62388	12913	AAA21087	12914	X53251	12915	CAA37339	12916	100	Ubiquitin conjugating enzyme	RATUCE Rattus norvegicus ubiquitin conjugating enzyme mRNA, complete cds
M63574	12917	AAA42129	12918	Z11793	12919	CAA77636	12920	62	selenoprotein P	rc_AL230247 EST226942 Rattus norvegicus cDNA, 3' end /clone=REMCU12 /clone_end=3'
M64378	12921	AAA41741	12922	AF398604	12923	AAK95089	12924	70	Olfactory protein	M64378 RATOLFPD Rat olfactory protein mRNA, complete cds
M64385	12925	AAA41748	12926	AF087816	12927	AAF37309	12928	73	Olfactory protein	M64385 RATOLFPD Rat olfactory protein mRNA, complete cds
M64391	12929	AAA41764	12930	NIM_003553	12931	NP_003544	12932	56	Olfactory protein mRNA	Rattus norvegicus isolate HGL-SL1 olfactory receptor pseudogene, partial sequence

Table 3.

M64793	12933	AAA42064	12934			Null	No Human	Rat salivary proline-rich protein (RP15) gene, complete cds	M64793 Rat salivary proline-rich protein (RP15) gene, complete cds /cds=(34,858) /gb=M64793 /gi=206711 /ug=Rn.9842 /len=1572
M67465	12935	AAA41352	12936	NM_000862	12937	NP_000853	12938	64	M67465 Rat 3-beta-hydroxysteroid dehydrogenase/delta-5-delta-4-ene-isomerase mRNA, complete cds /cds=(84,1205) /gb=M67465 /gi=204662 /ug=Rn.11311 /len=1947
M73701	12939	AAA42149	12940	NM_003282	12941	NP_003273	12942	92	M73701 R.norvegicus troponin I mRNA, complete cds /cds=(33,581) /gb=M73701 /gi=206884 /ug=Rn.9924 /len=879
M74494	12943	AAA41670	12944	D00099	12945	P05023	12946	96	M74494 Rat sodium/potassium ATPase alpha-1 subunit truncated isoform mRNA, 3' end /cds=(0,731) /gb=M74494 /gi=205629 /ug=Rn.2992 /len=936
M74494	12947	AAA41870	12948	D00098	12949	P05023	12950	96	Rat sodium/potassium ATPase alpha-1 subunit truncated isoform mRNA, 3' end /cds=(0,731) /gb=M74494 /gi=205629 /ug=Rn.2992 /len=936
M76740	12951	AAA41642	12952	AF007194	12953	AAC02272	12954	55	M76740 RATMUCINI Rat Intestinal mucin mRNA, partial cds
M76740	12955	AAA41642	12956	AF007194	12957	AAC02272	12958	55	M76740 RATMUCINI Rat Intestinal mucin mRNA, partial cds

Table 3.

M77809	12859	AAA40813	12860	NM_003243	12861	NP_003234	12862	80	betaglycan	M77809 Rat betaglycan mRNA, complete cds /cds=(334,2895) /gb=M77809 /gi=203137 /ug=Rn.9953 /len=3931
M77850	12863	AAA40625	12864	NM_000317	12865	NP_000308	12868	87	6-pyruvoyl-tetrahydropterin synthase	M77850 Rat 6-pyruvoyl-tetrahydropterin synthase mRNA, complete cds /cds=(50,484) /gb=M77850 /gi=202560 /ug=Rn.11125 /len=1176
M80550	12867	AAA40682	12868	AB028983	12869	BAA83012	12870	94	adenylyl cyclase type II	M80550 Rat adenylyl cyclase mRNA, complete cds /cds=(69,3341) /gb=M80550 /gi=202751 /ug=Rn.10731 /len=4008
M81784	12971	XM_009465		XP_009465				88n	K+ channel	M81784 RATKCAB Rattus norvegicus K+ channel mRNA, sequence
M83107	12872	AAA40762	12873	XM_006432	12874	XP_006432	12875	97	SM22	M83107 Rat SM22 mRNA, complete cds /cds=(162,767) /gb=M83107 /gi=202982 /ug=Rn.774 /len=1169
M83567	12976	NP_038764	12977			Null		No Human	Proline-rich protein, salivary	M83567 RATPRPBA Rat basic proline-rich protein mRNA, 3' flank
M86835	12978	AAA42331	12979	XM_003226	12980	XP_003226	12981	76	Rat vasoactive intestinal polypeptide receptor mRNA	M86835 Rat vasoactive intestinal polypeptide receptor mRNA, complete cds /cds=(58,1437) /gb=M86835 /gi=207640 /ug=Rn.9973 /len=3129
M86912	12982	CAA44183	12983	D13814	12984	BAA02968	12985	86n	Rat angiotensin receptor (AT1) gene, single exon	M86912 exon RATAT1B Rat angiotensin receptor (AT1) gene, single exon
M87786	12986	AAA41369				Null		No Human	Immunoglobulin light chain variable region	M87786 RATIGCD2L Rat (hybridoma YTH655) immunoglobulin light chain variable region, complementarity-determining regions mRNA, partial cds

NM\_012632

Table 3.

M80310	12987	AAA42287	12988	NM_003241	12989	NP_003232	12990	52	Dorsal protein 1	M80310 Rat dorsal protein 1 (DP1) mRNA, complete cds /cds=(86,2074) /gb=M80310 /gi=207483 /ug=Rn.9864 /len=2997
M92042	12991	AAA41701	12992	NM_004784	12993	NP_004775	12994	70	Rat N-heparan sulfate sulfotransferase mRNA	M92042 Rat N-heparan sulfate sulfotransferase mRNA, complete cds /cds=(448,3094) /gb=M92042 /gi=205702 /ug=Rn.9705 /len=4051
M86630	12995	AAA42125	12996	XM_043841		XP_043841		100	Homologue to sec81	M86630 RATSEC81B Rattus rattus sec81 homologue mRNA, complete cds
M86630	12997	AAA42125	12998	XM_043841		XP_043841		100	Homologue to sec81	RATSEC81B Rattus rattus sec81 homologue mRNA, complete cds
M89223	12999	AAA40891	13000	NM_005173	13001	NP_005164	13002	72	calcium transporting ATPase	M89223 Rattus norvegicus calcium transporting ATPase mRNA, complete cds /cds=UNKNOWN /gb=M89223 /gi=203644 /ug=Rn.10833 /len=3457
A1639453	13003			Null					EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone r00152 3', mRNA sequence [Rattus norvegicus]
A1639453	13004			Null					EST(not recognised) GTP	Rat mixed-tissue library Rattus norvegicus cDNA clone r00152 3', mRNA sequence [Rattus norvegicus]
A1639485	13005	AAD56338				Null		100/91	cyclohydrolase	Rat mixed-tissue library Rattus norvegicus cDNA clone r00371 3', mRNA sequence [Rattus norvegicus]
A1639248	13006			Null					EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r00379 3', mRNA sequence [Rattus norvegicus]
A1639248	13007			Null					EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r00379 3', mRNA sequence [Rattus norvegicus]
A1639248	13008			Null					EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r00379 3', mRNA sequence [Rattus norvegicus]
A1639536	13009			Null					EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone r00392 3', mRNA sequence [Rattus norvegicus]

Table 3.

AI639518	13010	AAD18908	13011	U37689	13012	P52434	13013	98	ESTs, Highly similar to RPB8_HUMAN DNA-DIRECTED POLYMERASE I, II, AND III 17:1 KD POLYPEPTID DE	AF105004	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00570 3', mRNA sequence [Rattus norvegicus]
AI639015	13014			Null					EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx00967 3', mRNA sequence [Rattus norvegicus]
AI639532	13015	NM_003279	13016	NP_003270	13017			90n	troponin C2, fast		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01030 3', mRNA sequence [Rattus norvegicus]
AI638991	13018			Null					EST (not recognized)		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01088 3', mRNA sequence [Rattus norvegicus]
AI639048	13019	T00057	13020	Null				87	EST, Moderately similar to T00057 hypothetical protein KIAA0423 [H.sapiens]		Rat mixed-tissue library Rattus norvegicus cDNA clone rx01260 3', mRNA sequence [Rattus norvegicus]
AI639213	13021			Null					EST (not recognized)		
AI639017	13022	AAC84161	13023	XM_004192		XP_004192		88n	Mus musculus MHC class III region RD gene	AF109906	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01287 3', mRNA sequence [Rattus norvegicus]

Table 3.

AI639376	13024	XM_005580	13025	XP_005580	13026	92n	Homo sapiens golgi autoantigen, golgin subfamily a, 1 (GOLGA1), mRNA	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01335 3', mRNA sequence [Rattus norvegicus]
AI639376	13027	XM_005580	13028	XP_005580	13029	92n	Homo sapiens golgi autoantigen, golgin subfamily a, 1 (GOLGA1), mRNA	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01335 3', mRNA sequence [Rattus norvegicus]
AI639432	13030			Null			EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01413 3', mRNA sequence [Rattus norvegicus]
AI639465	13031			Null			EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01612 3', mRNA sequence [Rattus norvegicus]
AI639465	13032			Null			EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01612 3', mRNA sequence [Rattus norvegicus]
AI639102	13033			Null			EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx01844 3', mRNA sequence [Rattus norvegicus]
AI639120	13034			Null			EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx02423 3', mRNA sequence [Rattus norvegicus]



Table 3.

AI639396	13035	R3RT25	13036	NM_001028	13037	NP_001019	13038	81	EST, Moderately similar to 40S RIBOSOMAL PROTEIN S25 [R.norvegicus]	Rat mixed-tissue library Rattus norvegicus cDNA clone x03014 3', mRNA sequence [Rattus norvegicus]
AI639422	13039	NP_058827	13040	NM_001231	13041	NP_001222	13042	62	EST, calsequestrin 1	Rat mixed-tissue library Rattus norvegicus cDNA clone x03053 3', mRNA sequence [Rattus norvegicus]
AI639204	13043			Null					EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone x03840 3', mRNA sequence [Rattus norvegicus]
AI639204	13044			Null					EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone x03840 3', mRNA sequence [Rattus norvegicus]
AI639247	13045	AY008106	13046	AAG48397	13047			80	EST, Moderately similar to T17296 hypothetical protein DKFZp434I092.1 [H.sapiens]	Rat mixed-tissue library Rattus norvegicus cDNA clone x03939 3', mRNA sequence [Rattus norvegicus]
AI638076	13048			Null					EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone x04025 3', mRNA sequence [Rattus norvegicus]
AI639076	13049			Null					EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone x04025 3', mRNA sequence [Rattus norvegicus]
AI639315	13050			Null					EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone x04457 3', mRNA sequence [Rattus norvegicus]
AI639137	13051			Null					EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone x04463 3', mRNA sequence [Rattus norvegicus]

Table 3.

AI639345	13052		13057			Null		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04716 3', mRNA sequence [Rattus norvegicus]
AI639471	13053					Null		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04752 3', mRNA sequence [Rattus norvegicus]
AI639471	13054					Null		EST (not recognized)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04752 3', mRNA sequence [Rattus norvegicus]
AI639222	13055					Null		EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04860 3', mRNA sequence [Rattus norvegicus]
AI639475	13056	BAB23951	13057	XM_043922	13058	XP_043922	13059	89n	Rat mixed-tissue library Rattus norvegicus cDNA clone rx04972 3', mRNA sequence [Rattus norvegicus]
AI639387	13060			Null				EST(not recognised)	Rat mixed-tissue library Rattus norvegicus cDNA clone rx05135 3', mRNA sequence [Rattus norvegicus]
AB049641	13061	BAB40846	13062	NM_014078	13063	NP_054797	13064	81n	rc_AA789440 EST188937 Rattus norvegicus cDNA, 3' end /clone=RHEAB09 /clone_end=3' /gb=AA799440 /gi=2862395 /ug=Rn.8185 /len=705
AA789448	13065			Null				EST(not recognised)	rc_AA789448 EST188945 Rattus norvegicus cDNA, 3' end /clone=RHEAB18 /clone_end=3' /gb=AA789448 /gi=2862403 /ug=Rn.8296 /len=615
AA799448	13066			Null				EST (not recognised)	rc_AA799448 EST188945 Rattus norvegicus cDNA, 3' end /clone=RHEAB18 /clone_end=3' /gb=AA799448 /gi=2862403 /ug=Rn.8296 /len=615

Table 3.

AA799449	13067	NP_032698	13068	XM_006483	13069	XP_006483	13070	86n	Mus musculus nucleosome assembly protein 1-like 4 (Nap14)	NM_008672	rc_AA799449 EST188946 Rattus norvegicus cDNA, 3' end /clone=RHEAB19 /clone_end=3' /gb=AA799449 /gi=2862404 /ug=Rn.3286 /len=553
AA799449	13071	NP_032698	13072	XM_006483	13073	XP_006483	13074	86n	Mus musculus nucleosome assembly protein 1-like 4 (Nap14)	NM_008672	rc_AA799449 EST188946 Rattus norvegicus cDNA, 3' end /clone=RHEAB19 /clone_end=3' /gb=AA799449 /gi=2862404 /ug=Rn.3286 /len=553
AA799449	13075	NP_032698	13076	XM_006483	13077	XP_006483	13078	86n	Mus musculus nucleosome assembly protein 1-like 4 (Nap14)	NM_008672	EST188946 Rattus norvegicus cDNA, 3' end /clone=RHEAB19 /clone_end=3' /gb=AA799449 /gi=2862404 /ug=Rn.3286 /len=553
AA799464	13079	AB026906	13080	BAA81889	13081			90n	SDHD gene for small subunit of cytochrome b of succinate dehydrogena se		rc_AA799464 EST188981 Rattus norvegicus cDNA, 3' end /clone=RHEAB35 /clone_end=3' /gb=AA799464 /gi=2862419 /ug=Rn.3792 /len=662
AA799479	13082	XM_006097		XP_006097				89n	NADH dehydrogena se (ubiquinone) Fe-S protein 8 (23kD)		rc_AA799479 EST188976 Rattus norvegicus cDNA, 3' end /clone=RHEAB52 /clone_end=3' /gb=AA799479 /gi=2862434 /ug=Rn.3373 /len=681

Table 3.

AA799479	13083	XM_006097	13085	13086	NP_073729	13087	98n	NADH dehydrogenase (ubiquinone) Fe-S protein 8 (23kD)	EST188976 Rattus norvegicus cDNA, 3' end /clone=RHEAB52 /clone_end=3' /gb=AA799479 /gi=2862434 /ug=Rn.3373 /len=881
AA799508	13084	NP_074058	13085	13086	NP_073729	13087	96	Microtubule-associated proteins 1A/1B light chain 3	rc_AA799508 EST189005 Rattus norvegicus cDNA, 3' end /clone=RHEAB91 /clone_end=3' /gb=AA799508 /gi=2862463 /ug=Rn.883 /len=709
AA799526	13088	AAH11510	13089	13086	XP_009884	13093	91n	Mus musculus, Similar to small nuclear ribonucleoprotein D3 polypeptide (18kD), clone IMAGE:3258 782, mRNA, complete cds	EST189023 Rattus norvegicus cDNA, 3' end /clone=RHEAC15 /clone_end=3' /gb=AA799526 /gi=2862481 /ug=Rn.6351 /len=626
AA799545	13090	NP_033966	13091	13092	AAH06501	13093	97	chaperonin subunit 3	rc_AA799545 EST189042 Rattus norvegicus cDNA, 3' end /clone=RHEAC38 /clone_end=3' /gb=AA799545 /gi=2862500 /ug=Rn.6017 /len=633



Table 3.

AA798637	13112	AAD13197	13113	U09284	13114	JC2324	13115	35	ESTs, Weakly similar to A55071 hydrogen peroxide- inducible protein hlc-6 mouse	AF095585	rc_AA798637 EST189134 Rattus norvegicus cDNA, 3' end /clone=RHEAD45 /clone_end=3' /gb=AA798637 /gi=2862592 /ug=Rn.25425 /len=571
AA798650	13116	NP_071985	13117	NM_006783	13118	NP_006784	13119	84	Peroxiredoxin n 3	NM_022540	EST189147 Rattus norvegicus cDNA, 3' end /clone=RHEAD59 /clone_end=3' /gb=AA798650 /gi=2862605 /ug=Rn.2011 /len=593
AA798724	13120	NP_033113	13121	NM_015972	13122	NP_057056	13123	82	RNA polymerase 1-3 (16 kDa subunit)	NM_009087	rc_AA798724 EST189221 Rattus norvegicus cDNA, 3' end /clone=RHEAE52 /clone_end=3' /gb=AA798724 /gi=2862678 /ug=Rn.6228 /len=638
AA798801	13124	NP_065641	13125	NM_020642	13126	NP_065693	13127	70 (mus)	Predicted gene ICREFP703B1 614Q5.6	NM_020816	rc_AA798801 EST189298 Rattus norvegicus cDNA, 3' end /clone=RHEAF51 /clone_end=3' /gb=AA798801 /gi=2862756 /ug=Rn.3846 /len=596
AA798801	13128	NP_085641	13129	NM_020642	13130	NP_065693	13131	70 (mus)	Predicted gene ICREFP703B1 614Q5.6	NM_020816	rc_AA798801 EST189298 Rattus norvegicus cDNA, 3' end /clone=RHEAF51 /clone_end=3' /gb=AA798801 /gi=2862756 /ug=Rn.3846 /len=596
AA800044	13132			Null					EST(not recognised)		rc_AA800044 EST189541 Rattus norvegicus cDNA, 3' end /clone=RHEA175 /clone_end=3' /gb=AA800044 /gi=2862899 /ug=Rn.3851 /len=630
AA800148	13133	AAF22214	13134	XM_040129		XP_040128		89	syndapin IIbb	AF139495	rc_AA800148 EST189645 Rattus norvegicus cDNA, 3' end /clone=RHEAL69 /clone_end=3' /gb=AA800148 /gi=2863103 /ug=Rn.22783 /len=448

Table 3.

AA800186	13135	Null			EST (not recognized)	rc_AA800186 EST189683 Rattus norvegicus cDNA, 3' end /clone=RHEAM22 /clone_end=3' /gb=AA800186 /gi=2863141 /ug=Rn.21431 /len=437
AA800186	13136	Null			EST (not recognized)	EST189683 Rattus norvegicus cDNA, 3' end /clone=RHEAM22 /clone_end=3' /gb=AA800186 /gi=2863141 /ug=Rn.21431 /len=437
AA800202	13137	Null			EST(not recognised)	rc_AA800202 EST189699 Rattus norvegicus cDNA, 3' end /clone=RHEAM39 /clone_end=3' /gb=AA800202 /gi=2863157 /ug=Rn.8943 /len=543
AA800210	13138	Null			EST (not recognised)	rc_AA800210 EST189707 Rattus norvegicus cDNA, 3' end /clone=RHEAM47 /clone_end=3' /gb=AA800210 /gi=2863165 /ug=Rn.13244 /len=582
AA800216	13139	Null			Mus musculus 18 days embryo cDNA, RIKEN	rc_AA800216 EST189713 Rattus norvegicus cDNA, 3' end /clone=RHEAM55 /clone_end=3' /gb=AA800216 /gi=2863171 /ug=Rn.22171 /len=618
AA800232	13140	NM_013392	13141	NP_037524	89 nuclear receptor binding protein (NRBP)	rc_AA800232 EST189729 Rattus norvegicus cDNA, 3' end /clone=RHEAM72 /clone_end=3' /gb=AA800232 /gi=2863187 /ug=Rn.6301 /len=593
AA800319	13143	Null			EST (not recognized)	EST189816 Rattus norvegicus cDNA, 3' end /clone=RHEAM86 /clone_end=3' /gb=AA800319 /gi=2863274 /ug=Rn.8699 /len=601
AA800678	13144	Null			EST(not recognised)	rc_AA800678 EST190175 Rattus norvegicus cDNA, 3' end /clone=RLUAK20 /clone_end=3' /gb=AA800678 /gi=2863633 /ug=Rn.8592 /len=452

Table 3.

AA800738	13145	Null				Homo sapiens, clone IMAGE:4179 558	rc_AA800738 EST190235 Rattus norvegicus cDNA, 3' end /clone=RLUAK86 /clone_end=3' /gb=AA800738 /gi=2863693 /ug=Rn.6829 /len=581
AA800763	13146	Null				EST (not recognised)	rc_AA800763 EST190260 Rattus norvegicus cDNA, 3' end /clone=RLUAL17 /clone_end=3' /gb=AA800763 /gi=2863718 /ug=Rn.6636 /len=475
AA800800	13147	Null				EST (not recognised)	rc_AA800800 EST190297 Rattus norvegicus cDNA, 3' end /clone=RLUAL59 /clone_end=3' /gb=AA800800 /gi=2863755 /ug=Rn.1945 /len=550
AA800882	13148	Null				Mus musculus 11 days embryo head cDNA, RIKEN	rc_AA800882 EST190379 Rattus norvegicus cDNA, 3' end /clone=RLUAM60 /clone_end=3' /gb=AA800882 /gi=2863837 /ug=Rn.24136 /len=378
AA817685	13149	13150	XM_048473	NP_071581	13150	Cytochrome b5	rc_AA817685 UI-R-AO-aa-b-12-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-AO-aa-b-12-O-UI /clone_end=3' /gb=AA817685 /gi=2887565 /ug=Rn.1055 /len=399
AA818604	13151	13152	M11717	NP_114177	13153	Heat shock protein 70-1 (Hspa1a)	rc_AA818604 UI-R-AO-bc-h-02-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-AO-bc-h-02-O-UI /clone_end=3' /gb=AA818604 /gi=2889343 /ug=Rn.1950 /len=516
AA819643	13155		Null			EST (not recognised)	rc_AA819643 UI-R-AO-an-f-10-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone_end=3' /gb=AA819643 /gi=2888907 /ug=Rn.2277 /len=568



Table 3.

AA849036	13156	NP_058786	13157	NM_000856	13158	NP_000847	13159	80	guanylate cyclase 1, soluble, alpha 3 (Gucy1a3),	NM_017080	rc_AA849036 EST191798 Rattus norvegicus cDNA, 3' end /clone=RLUAJ79 /clone_end=3' /gb=AA849036 /gi=2936576 /ug=Rn.1974 /len=629
AA852046	13160			Null					ovarian cathepsin B amplicon	AF057143	rc_AA852046 EST194815 Rattus norvegicus cDNA, 3' end /clone=RSPAP85 /clone_end=3' /gb=AA852046 /gi=2939586 /ug=Rn.11350 /len=424
AA858641	13161			Null					EST (not recognized)		rc_AA858641 UI-R-E0-bq-d-09-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-bq-d-09-Q-UI /clone_end=3' /gb=AA858641 /gi=2948981 /ug=Rn.16559 /len=542
AA859468	13162			Null					EST (not recognized)		UI-R-E0-bv-e-04-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0- bv-e-04-Q-UI /clone_end=3' /gb=AA859468 /gi=2948988 /ug=Rn.226 /len=434
AA859835	13163			Null					EST(not recognised)		rc_AA859835 UI-R-E0-cc-g-07-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cc-g-07-Q-UI /clone_end=3' /gb=AA859835 /gi=2949355 /ug=Rn.784 /len=418
AA859835	13164			Null					EST(not recognised)		rc_AA859835 UI-R-E0-cc-g-07-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cc-g-07-Q-UI /clone_end=3' /gb=AA859835 /gi=2949355 /ug=Rn.784 /len=418
AA859922	13165			Null					Strong homology with 18S rRNA		rc_AA859922 UI-R-E0-cg-c-04-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cg-c-04-Q-UI /clone_end=3' /gb=AA859922 /gi=2949442 /ug=Rn.819 /len=373
AA859968	13166			Null					(V01270)		UI-R-E0-ca-g-03-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0- ca-g-03-Q-UI /clone_end=3' /gb=AA859968 /gi=2949486 /ug=Rn.861 /len=392

Table 3.

AA859986	13167	Null							Homo sapiens cDNA: FLJ23343 file, clone HEP13562	rc_AA859986 UI-R-E0-ca-b-04-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-ca-b-04-Q-UI /clone_end=3' /gb=AA859986 /gi=2849516 /ug=Rn.22834 /len=553
AA866248	13168	BAA07197	13169	NM_008462	13170	NP_008443	13171	98	Rat AIRC mRNA for AIR carboxylase-SAICAR synthetase, complete cds	UI-R-A0-bg-h-03-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-bg-h-03-Q-UI /clone_end=3' /gb=AA866248 /gi=2981694 /ug=Rn.3015 /len=557
AA866485	13172	Null							EST (not recognized)	rc_AA866485 UI-R-A0-bd-e-03-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0-bd-e-03-Q-UI /clone_end=3' /gb=AA866485 /gi=2861697 /ug=Rn.3018 /len=406
AA874887	13173	CAA06377	13174	AB019987	13175	BAA73535	13176	100	ESTs, Weakly similar to SMC-protein [R.norvegicus]	rc_AA874887 UI-R-E0-cl-g-10-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cl-g-10-Q-UI /clone_end=3' /gb=AA874887 /gi=2979835 /ug=Rn.3162 /len=478
AA874887	13177	CAA06377	13178	AB019987	13179	BAA73535	13180	100	ESTs, Weakly similar to SMC-protein [R.norvegicus]	UI-R-E0-cl-g-10-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cl-g-10-Q-UI /clone_end=3' /gb=AA874887 /gi=2979835 /ug=Rn.3162 /len=478
AA874918	13181	AAC39871	13182	NM_003899	13183	NP_003880	13184	88	PAK-Interacting exchange factor beta-PIX	rc_AA874918 UI-R-E0-ck-g-08-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-ck-g-08-Q-UI /clone_end=3' /gb=AA874918 /gi=2979866 /ug=Rn.10953 /len=519

AF044673

Table 3.

AA875045	13185	NP_032827	13186	NM_002601	13187	NP_002592	13188	89n	phosphodiesterase 6D, cGMP-specific, rod, delta	rc_AA875045 UI-R-E0-cb-o-03-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cb-o-03-O-UI /clone_end=3' /gb=AA875045 /gi=2979993 /ug=Rn.3214 /len=543 UI-R-E0-cb-f-05-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cb-f-05-O-UI /clone_end=3' /gb=AA875060 /gi=2980008 /ug=Rn.3225 /len=548
AA875060	13189		13186	Null					EST (not recognized)	rc_AA875136 UI-R-E0-bu-f-02-O-UI.s2 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-bu-f-02-O-UI /clone_end=3' /gb=AA875136 /gi=2980084 /ug=Rn.2804 /len=581
AA875136	13190			Null					EST(not recognised)	rc_AA875186 UI-R-E0-cs-h-05-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cs-h-05-O-UI /clone_end=3' /gb=AA875186 /gi=2980134 /ug=Rn.3753 /len=403
AA875186	13191			Null					Mus musculus adult male colon cDNA, RIKEN	rc_AA875281 UI-R-E0-cn-e-02-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cn-e-02-O-UI /clone_end=3' /gb=AA875281 /gi=2980239 /ug=Rn.11377 /len=323
AA875281	13192	NP_058756	13193	NM_007069	13194	NP_009000	13195	78	Hras-revertant gene 107	rc_AA875438 UI-R-E0-cs-h-12-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cs-h-12-O-UI /clone_end=3' /gb=AA875438 /gi=2980388 /ug=Rn.24931 /len=563
AA875438	13196			Null					Mus musculus adult male tongue cDNA, RIKEN	rc_AA875563 UI-R-E0-cm-b-06-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cm-b-06-O-UI /clone_end=3' /gb=AA875563 /gi=2980511 /ug=Rn.3275 /len=472
AA875563	13197	NP_033063	13198	XM_054015		XP_054015		89n	Mus musculus reticulocalbin (Rcn)	

Table 3.

AA875635	13199								EST (not recognized)	rc_AA875635 UI-R-EO-ct-f-05-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-EO-ct-f-05-0-UI /clone_end=3' /gb=AA875635 /gi=2980583 /ug=Rn.2884 /len=367
AA891037	13200	R5RT3L	13201	U65581	13202	Q92801	13203	95	ESTs, Moderately similar to 60S RIBOSOMAL PROTEIN L3 [R.norvegicu s]	rc_AA891037 EST194840 Rattus norvegicus cDNA, 3' end /clone=RHEAO17 /clone_end=3' /gb=AA891037 /gi=3017916 /ug=Rn.16548 /len=401
AA891242	13204	AAB31016	13205	XM_004995		XP_004995		89n	Myosin light chain-2 isoform	rc_AA891242 EST195045 Rattus norvegicus cDNA, 3' end /clone=RHEAQ93 /clone_end=3' /gb=AA891242 /gi=3018121 /ug=Rn.3843 /len=559
AA891242	13206	AAB31016	13207	XM_004995		XP_004995		89n	Myosin light chain-2 isoform	rc_AA891242 EST195045 Rattus norvegicus cDNA, 3' end /clone=RHEAQ93 /clone_end=3' /gb=AA891242 /gi=3018121 /ug=Rn.3843 /len=559
AA891438	13208	AAF23952	13209	XM_045474	13210	XP_045474	13211	94n	Mus musculus pantothenate kinase 1 beta (panK1beta)	rc_AA891438 EST195241 Rattus norvegicus cDNA, 3' end /clone=RHEAU25 /clone_end=3' /gb=AA891438 /gi=3018317 /ug=Rn.22406 /len=397
AA891438	13212	AAF23952	13213	XM_045474	13214	XP_045474	13215	94n	Mus musculus pantothenate kinase 1 beta (panK1beta)	rc_AA891438 EST195241 Rattus norvegicus cDNA, 3' end /clone=RHEAU25 /clone_end=3' /gb=AA891438 /gi=3018317 /ug=Rn.22406 /len=397

Table 3.

AA891651	13216	Null				EST (not recognized)	rc_AA891651 EST195454 Rattus norvegicus cDNA, 3' end /clone=RKIAF13 /clone_end=3' /gb=AA891651 /gi=3018530 /ug=Rn.1318 /len=499
AA891689	13217	AAF28940	13219	89n	HSPC262		rc_AA891689 EST195492 Rattus norvegicus cDNA, 3' end /clone=RKIAF57 /clone_end=3' /gb=AA891689 /gi=3018568 /ug=Rn.14704 /len=421
AA891727	13220	XM_042840		92n	EST (hypothetical protein)		EST195530 Rattus norvegicus cDNA, 3' end /clone=RKIAG04 /clone_end=3' /gb=AA891727 /gi=3018608 /ug=Rn.3418 /len=418
AA891828	13221	BC014026	13223	88n	Homo sapiens, Similar to RAD23		rc_AA891828 EST195631 Rattus norvegicus cDNA, 3' end /clone=RKIAH33 /clone_end=3' /gb=AA891828 /gi=3018707 /ug=Rn.6983 /len=546
AA891828	13224	AAD41775		63	Procollagen, type I, alpha 2	AF121217	rc_AA891828 EST195631 Rattus norvegicus cDNA, 3' end /clone=RKIAH33 /clone_end=3' /gb=AA891828 /gi=3018707 /ug=Rn.8963 /len=546
AA891857	13226	AAD40012	13228	92	Rattus norvegicus small zinc finger-like protein (TIM9b)	AF150108	rc_AA891857 EST195660 Rattus norvegicus cDNA, 3' end /clone=RKIAH77 /clone_end=3' /gb=AA891857 /gi=3018736 /ug=Rn.13451 /len=501
AA891843	13230	Null			EST (not recognized)		rc_AA891843 EST195748 Rattus norvegicus cDNA, 3' end /clone=RKIA186 /clone_end=3' /gb=AA891843 /gi=3018822 /ug=Rn.3584 /len=550

Table 3.

AA892012	13231	XNRTDM	13232	M22632	13233	XNHU DM	13234	94	Glutamate oxaloacetate transaminas e 2, mitochondrial (aspartate aminotransfe rase 2)	rc_AA892012 EST195815 Rattus norvegicus cDNA, 3' end /clone=RKIAK66 /clone_end=3' /gb=AA892012 /gi=3018891 /ug=Rn.3628 /len=363
AA892012	13235	XNRTDM	13236	M22632	13237	XNHU DM	13238	94	Glutamate oxaloacetate transaminas e 2, mitochondrial (aspartate aminotransfe rase 2)	EST195815 Rattus norvegicus cDNA, 3' end /clone=RKIAK66 /clone_end=3' /gb=AA892012 /gi=3018891 /ug=Rn.3628 /len=363
AA892154	13239	NP_037292	13240	NM_006454	13241	NP_006445	13242	50	Mad4 homolog (human)	rc_AA892154 EST195957 Rattus norvegicus cDNA, 3' end /clone=RKIAN02 /clone_end=3' /gb=AA892154 /gi=3019033 /ug=Rn.3279 /len=386
AA892154	13243	NP_037292	13244	NM_006454	13245	NP_006445	13246	50	Mad4 homolog (human)	rc_AA892154 EST195957 Rattus norvegicus cDNA, 3' end /clone=RKIAN02 /clone_end=3' /gb=AA892154 /gi=3019033 /ug=Rn.3279 /len=386
AA892228	13247	NP_071568	13248	NM_006260	13249	NP_006251	13250	88	Protein- kinase, interferon- inducible double stranded RNA dependent inhibitor	rc_AA892228 EST196031 Rattus norvegicus cDNA, 3' end /clone=RKIAN81 /clone_end=3' /gb=AA892228 /gi=3019107 /ug=Rn.4183 /len=459

Table 3.

AA892228	13251	NM_006260	13252	NP_006261	13253				88	Protein-kinase, interferon-inducible double stranded RNA dependent inhibitor	EST196031 Rattus norvegicus cDNA, 3' end /clone=RKIAN91 /clone_end=3' /gb=AA892228 /gi=3019107 /ug=Rn.4183 /len=459
AA892468	13254	P27435	13255	L41351	13256	Q16651	13257		76	Rattus norvegicus mRNA for prostasin precursor, complete cds	rc_AA892468 EST196271 Rattus norvegicus cDNA, 3' end /clone=RKIAQ80 /clone_end=3' /gb=AA892468 /gi=3019347 /ug=Rn.22724 /len=474
AA892468	13258	P27435	13259	L41351	13260	Q16651	13261		76	Rattus norvegicus mRNA for prostasin precursor, complete cds	rc_AA892468 EST196271 Rattus norvegicus cDNA, 3' end /clone=RKIAQ80 /clone_end=3' /gb=AA892468 /gi=3019347 /ug=Rn.22724 /len=474
AA892551	13262			Null						EST	rc_AA892551 EST196354 Rattus norvegicus cDNA, 3' end /clone=RKIAS76 /clone_end=3' /gb=AA892551 /gi=3019430 /ug=Rn.14765 /len=112
AA892551	13263			Null						EST	rc_AA892551 EST196354 Rattus norvegicus cDNA, 3' end /clone=RKIAS76 /clone_end=3' /gb=AA892551 /gi=3019430 /ug=Rn.14765 /len=112
AA892635	13264	TVRTRH	13265	M31470	13266	TVHUC4	13267		99	Ras-like protein	rc_AA892635 EST196438 Rattus norvegicus cDNA, 3' end /clone=RKIAV15 /clone_end=3' /gb=AA892635 /gi=3019514 /ug=Rn.12720 /len=478

Table 3.

AA892835	13268	TVRTRH	13269	M31470	13270	TVHUC4	13271	89	Ras-like protein	EST198438 Rattus norvegicus cDNA, 3' end /clone=RK1A15 /clone_end=3' /gb=AA892835 /gi=3019514 /ug=Rn.12720 /len=478
AA892805	13272			Null					Mus musculus adult male testis cDNA, RIKEN	rc_AA892805 EST198608 Rattus norvegicus cDNA, 3' end /clone=RK1A50 /clone_end=3' /gb=AA892805 /gi=3019684 /ug=Rn.19944 /len=489
AA892817	13273			Null					EST (not recognized)	rc_AA892817 EST196620 Rattus norvegicus cDNA, 3' end /clone=RK1A52 /clone_end=3' /gb=AA892817 /gi=3019696 /ug=Rn.14794 /len=650
AA892855	13274	NP_033089	13275	XM_006049		XP_006049		64(mus)	ESTs, Highly similar to ROM1 MOUSE ROD OUTER SEGMENT MEMBRANE PROTEIN 1 [M.musculus]	rc_AA892855 EST196658 Rattus norvegicus cDNA, 3' end /clone=RK1A14 /clone_end=3' /gb=AA892855 /gi=3019734 /ug=Rn.14786 /len=532
AA892888	13276			Null					EST (not recognized)	rc_AA892888 EST196691 Rattus norvegicus cDNA, 3' end /clone=RK1A54 /clone_end=3' /gb=AA892888 /gi=3019787 /ug=Rn.14801 /len=508
AA892819	13277	AAA41719	13278			Null		No Human eln of 140kD	Nucleolar phosphoprotein of 140kD	rc_AA892819 EST196722 Rattus norvegicus cDNA, 3' end /clone=RK1A91 /clone_end=3' /gb=AA892819 /gi=3019798 /ug=Rn.8517 /len=574



Table 3.

AA892919	13279	AAA41718	13280	XM_005918	XP_005918	42	nucleolar phosphoprotein of 140kD, Nopp140	M94288	rc_AA892919 EST196722 Rattus norvegicus cDNA, 3' end /clone=RK1AY91 /clone_end=3' /gb=AA892919 /gi=3019798 /ug=Rn.9517 /len=574
AA892942	13281			Null			EST (not recognized)		rc_AA892942 EST196745 Rattus norvegicus cDNA, 3' end /clone=RK1BA19 /clone_end=3' /gb=AA892942 /gi=3019821 /ug=Rn.3611 /len=511
AA893158	13282	AAA37238	13283	NM_001156	NP_001147	88	synexin	L13129	rc_AA893158 EST196981 Rattus norvegicus cDNA, 3' end /clone=RK1BC88 /clone_end=3' /gb=AA893158 /gi=3020037 /ug=Rn.18916 /len=428
AA893191	13286			Null			EST(not recognised)		rc_AA893191 EST196994 Rattus norvegicus cDNA, 3' end /clone=RK1BD35 /clone_end=3' /gb=AA893191 /gi=3020070 /ug=Rn.3301 /len=854
AA893191	13287			Null			EST(not recognised)		rc_AA893191 EST196994 Rattus norvegicus cDNA, 3' end /clone=RK1BD35 /clone_end=3' /gb=AA893191 /gi=3020070 /ug=Rn.3301 /len=854
AA893210	13288	O35142	13289	X70476	P35606	97	Beta prime COP		EST197013 Rattus norvegicus cDNA, 3' end /clone=RK1BD55 /clone_end=3' /gb=AA893210 /gi=3020089 /ug=Rn.11141 /len=608
AA893212	13292			Null			EST (Limited homology to thioredoxin reductase gene, partial cds)		rc_AA893212 EST197015 Rattus norvegicus cDNA, 3' end /clone=RK1BD58 /clone_end=3' /gb=AA893212 /gi=3020091 /ug=Rn.23943 /len=638

Table 3.

AA893275	13293	XM_048457	13284	XP_048457	13295			87n	Homo sapiens KIAA0892 protein	rc_AA893275 EST197078 Rattus norvegicus cDNA, 3' end /clone=RK1BE38 /clone_end=3' /gb=AA893275 /gi=3020154 /lug=Rn.22748 /len=505
AA893325	13296	NP_071966	13297	NM_000274	13298	NP_000265	13299	87	ornithine aminotransferase (Oat)	rc_AA893325 EST197128 Rattus norvegicus cDNA, 3' end /clone=RK1BF09 /clone_end=3' /gb=AA893325 /gi=3020204 /lug=Rn.1430 /len=464
AA893552	13300	AAB39509	13301	NM_006215	13302	NP_006206	13303	53	Rattus norvegicus kallistatin mRNA, complete cds	rc_AA893552 EST197355 Rattus norvegicus cDNA, 3' end /clone=RL1AD83 /clone_end=3' /gb=AA893552 /gi=3020431 /lug=Rn.11152 /len=669
AA893596	13304	AK016067	13305	BC003542	13306	AAH03542	13307	93(mus)	Mouse RIKEN full-length cDNA	rc_AA893596 EST197399 Rattus norvegicus cDNA, 3' end /clone=RPLAC38 /clone_end=3' /gb=AA893596 /gi=3020475 /lug=Rn.22237 /len=564
AA893602	13308	AK016067	13309	BC003542	13310	AAH03542	13311	93(mus)	Mouse RIKEN full-length cDNA	EST197398 Rattus norvegicus cDNA, 3' end /clone=RPLAC38 /clone_end=3' /gb=AA893596 /gi=3020475 /lug=Rn.22237 /len=564
AA893602	13312	BAA88213	13313	NM_022481	13314	NP_071906	13315	81	Mus musculus AZ2 mRNA	rc_AA893602 EST197405 Rattus norvegicus cDNA, 3' end /clone=RPLAC44 /clone_end=3' /gb=AA893602 /gi=3020481 /lug=Rn.14812 /len=567

Table 3.

AA893671	13316	Q63244	13317	U02310	13318	1923399A	13319	93	ESTs, Weakly similar to HFH1 RAT HEPATOCYTE NUCLEAR FACTOR 3 FORKHEAD HOMOLOG 1 [R.norvegicus]	rc_AA893671 EST197474 Rattus norvegicus cDNA, 3' end /clone=RPLA127 /clone_end=3' /gb=AA893671 /gi=3020550 /ug=Rn.22754 /len=399
AA893690	13320	NP_062308	13321	BC010665	13322	AAH10665	13323	86n	Mus musculus neuronal protein 15.8 (Np15.8-pending)	rc_AA893690 EST197493 Rattus norvegicus cDNA, 3' end /clone=RPLA147 /clone_end=3' /gb=AA893690 /gi=3020569 /ug=Rn.3377 /len=492
AA893885	13324			Null					EST (not recognized)	rc_AA893885 EST197688 Rattus norvegicus cDNA, 3' end /clone=RPLAN11 /clone_end=3' /gb=AA893885 /gi=3020764 /ug=Rn.3719 /len=392
AA893939	13325	NP_033195	13326	XM_044488		XP_044488		92n	Mus musculus split hand/foot deleted gene 1	rc_AA893939 EST197742 Rattus norvegicus cDNA, 3' end /clone=RPLAN70 /clone_end=3' /gb=AA893939 /gi=3020818 /ug=Rn.8472 /len=416
AA893985	13327			Null					EST (rare)	EST197788 Rattus norvegicus cDNA, 3' end /clone=RPLAO24 /clone_end=3' /gb=AA893985 /gi=3020884 /ug=Rn.14842 /len=400
AA894004	13328	NP_031625	13329	BC000728	13330	AAH00728	13331	87n	Mus musculus, Similar to capping protein (actin filament)	rc_AA894004 EST197807 Rattus norvegicus cDNA, 3' end /clone=RPLAO48 /clone_end=3' /gb=AA894004 /gi=3020883 /ug=Rn.8945 /len=430

Table 3.

[illegible]

Table 3.

AA955477	13352	CAA54183	13353	BC010407	13354	AAH10407	13355	88n	ESTs, Moderately similar to S78100 MAPK- activated protein kinase (EC 2.7.1.1) 2 - mouse (fragment) [M.musculus]	rc_AA955477 UI-R-A1-ex-f01-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A1-ex-f01-Q-UI /clone_end=3' /gb=AA955477 /ug=Rn.8789 /len=394
AA983674	13356	NP_058941	13357	XM_009189		XP_009189		98	Rattus norvegicus eukaryotic translation elongation factor 2	rc_AA983674 UI-R-E1-gg-h-01-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E1-gg-h-01-Q-UI /clone_end=3' /gb=AA983674 /ug=Rn.7194 /len=333
AA983674	13358	NP_058941	13359	XM_009189		XP_009189		98	Rattus norvegicus eukaryotic translation elongation factor 2	rc_AA983674 UI-R-E1-gg-h-01-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E1-gg-h-01-Q-UI /clone_end=3' /gb=AA983674 /ug=Rn.7194 /len=333
AA988882	13360	NP_074060	13361	XM_005918		XP_005918		42	nucleolar phosphoprot ein p130 (Nopp140 Similar to oxygen regulated protein (150kD)	rc_AA988882 UI-R-CO-hp-a-11-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-CO-hp-a-11-Q-UI /clone_end=3' /gb=AA988882 /ug=Rn.9517 /len=478
AI008098	13362	BC004580	13363	AAH04580	13364			92n	Proteasome (prosome, macropain) subunit, alpha type 1	EST203549 Rattus norvegicus cDNA, 3' end /clone=REMBI58 /clone_end=3' /gb=AI008098 /ug=Rn.983 /len=549
AI009111	13365	NP_058974	13366	NM_002786	13367	NP_002777	13368	97		rc_AI009111 EST203562 Rattus norvegicus cDNA, 3' end /clone=REMBI74 /clone_end=3' /gb=AI009111 /ug=Rn.2668 /len=612

Table 3.

AI010357	13369	NP_068534	13370	NM_006667	13371	NP_006658	13372	79	25-Dx protein (25Dx)	NM_021766	rc_AI010357 EST204808 Rattus norvegicus cDNA, 3' end /clone=RLUBX66 /clone_end=3' /gb=AI010357 /ug=Rn.4232 /len=754
AI013795	13373	NP_073204	13374	NM_003241	13375	NP_003232	13376	52	Dorsal protein 1	NM_022713	rc_AI013795 EST208470 Rattus norvegicus cDNA, 3' end /clone=RSPBS90 /clone_end=3' /gb=AI013795 /ug=Rn.9964 /len=248
AI045558	13377	JE0155		AF041254	13378	O43815	13379	90	Translocator of inner mitochondrial membrane 44		rc_AI045558 UI-R-C1-jz-h-03-O-UI.s2 Rattus norvegicus cDNA, 3' end /clone=UI-R-C1-jz-h-03-O-UI /clone_end=3' /gb=AI045558 /ug=Rn.10801 /len=422
AI045558	13380	JE0155		XM_049282	13381	XP_049282	13382	90	Translocator of inner mitochondrial membrane 44 ESTs, Weakly similar to T14784 hypothetical protein DKFZp586P 1522.1 [H.sapiens]		UI-R-C1-jz-h-03-O-UI.s2 Rattus norvegicus cDNA, 3' end /clone=UI-R-C1- jz-h-03-O-UI /clone_end=3' /gb=AI045558 /ug=Rn.10801 /len=422
AI045858	13383	XM_027074	13384	XP_027074	13385			87n	ESTs, Weakly similar to T14784 hypothetical protein DKFZp586P 1522.1 [H.sapiens]		rc_AI045858 UI-R-C1-km-e-10-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C1-km-e-10-O-UI /clone_end=3' /gb=AI045858 /ug=Rn.1740 /len=432
AI045858	13386	XM_027074	13387	XP_027074	13388			87n	ESTs, Weakly similar to T14784 hypothetical protein DKFZp586P 1522.1 [H.sapiens]		UI-R-C1-km-e-10-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C1- km-e-10-O-UI /clone_end=3' /gb=AI045858 /ug=Rn.1740 /len=432

Table 3.

AI071511	13389	T41751	AB011399	13390	P55196	13391	91	Atadin	rc_AI071511 UI-R-C2-nc-h-01-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C2-nc-h-01-Q-UI /clone_end=3' /gb=AI071511 /ug=Rn.58 /len=427
AI072089	13392	JS0738	AB029042	13393	Q8UII2	13394	76	ATPase inhibitor (rat mitochondrial IF1 protein)	rc_AI072089 UI-R-C2-nf-d-09-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C2-nf-d-09-Q-UI /clone_end=3' /gb=AI072089 /ug=Rn.10960 /len=438
AI102917	13395	NP_112276	D82348	13397	BAA11559	13398	91	5- aminimidaz ole-4- carboxamide ribonucleotid e formyltransfe rase/IMP cyclohydrola se (Atic)	rc_AI102917 EST212206 Rattus norvegicus cDNA, 3' end /clone=REMBU84 /clone_end=3' /gb=AI102917 /gi=3707555 /ug=Rn.11052 /len=458
AI104389	13399	AAK01620	XM_032531	13400	XP_032531		86n	Mus musculus ankyrin- repeat family A protein	rc_AI104389 EST213678 Rattus norvegicus cDNA, 3' end /clone=RHECC67 /clone_end=3' /gb=AI104389 /gi=3708757 /ug=Rn.11082 /len=488
AI104389	13401	1TOH	M20912	13403	I55282		88	Tyrosine hydroxylase	rc_AI104389 EST213678 Rattus norvegicus cDNA, 3' end /clone=RHECC67 /clone_end=3' /gb=AI104389 /gi=3708757 /ug=Rn.11082 /len=488
AI104882	13404	NP_075225	XM_005114	13405	XP_005114		71	Cytosolic epoxide hydrolase	rc_AI104882 EST214171 Rattus norvegicus cDNA, 3' end /clone=RHECK76 /clone_end=3' /gb=AI104882 /gi=3709128 /ug=Rn.11415 /len=401

Table 3.

AI105198	13406	NP_037162	13407	NM_003052	13408	NP_003043	13409	91	Solute carrier family 17 (sodium/hydriogen exchanger), member 2	NM_013030	EST214487 Rattus norvegicus cDNA, 3' end /clone=RKIBG82 /clone_end=3' /gb=AI105198 /ug=Rn.3542 /len=522
AI105374	13410	NP_036810	13411	NM_003280	13412	NP_003281	13413	60	Tropomyosin 4	NM_012678	re_AI105374 EST214663 Rattus norvegicus cDNA, 3' end /clone=RKIBJ48 /clone_end=3' /gb=AI105374 /gb=3709468 /ug=Rn.11115 /len=492
AI112391	13414	NP_036769	13415	NM_002827	13416	NP_002818	13417	81	Protein-tyrosine phosphatase	NM_012637	re_AI112391 UI-R-YO-mn-h-02-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-YO-mn-h-02-O-UI /clone_end=3' /gb=AI112391 /ug=Rn.11317 /len=316
AI136540	13418	NP_035750	13419	NM_006757	13420	NP_006748	13421	64	troponin T3, skeletal, fast (Tnni3)	NM_011620	re_AI136540 UI-R-C2p-nq-h-04-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C2p-nq-h-04-O-UI /clone_end=3' /gb=AI136540 /ug=Rn.22504 /len=474
AI145177	13422	NP_062010	13423	XM_017593	13424	XP_017593	13425	72	Rattus norvegicus Zinc-finger transcription factor NGFI-C	NM_018137	re_AI145177 UI-R-BT0-pt-h-08-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-BT0-pt-h-08-O-UI /clone_end=3' /gb=AI145177 /ug=Rn.9703 /len=336
AI145494	13426	D30411		U40215	13427	JC4940	13428	94	Synapsin II		UI-R-BT0-qt-f-12-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-BT0-qt-f-12-O-UI /clone_end=3' /gb=AI145494 /ug=Rn.506 /len=486
AI145494	13429	D30411		U40215	13430	JC4940	13431	94	Synapsin II		UI-R-BT0-qt-f-12-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-BT0-qt-f-12-O-UI /clone_end=3' /gb=AI145494 /ug=Rn.506 /len=486
AI145680	13432	CAA60116	13433	XM_001306		XP_001306		80	monocarboxylate transporter	X86216	re_AI145680 UI-R-BT0-qd-b-09-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-BT0-qd-b-09-O-UI /clone_end=3' /gb=AI145680 /ug=Rn.6085 /len=464



Table 3.

AI170685	13434	BAA88301	13435	NM_005880	13436	NP_005871	13437	86	mD3	AB028853	rc_AI170685 EST216621 Rattus norvegicus cDNA, 3' end /clone=RMUAZ92 /clone_end=3' /gb=AI170685 /gi=3710725 /ug=Rn.3904 /len=848
AI175900	13438	P41156	13439	J04101	13440	TVHUET	13441	98	transcription factor ets-1		rc_AI175900 EST219472 Rattus norvegicus cDNA, 3' end /clone=ROVBG93 /clone_end=3' /gb=AI175900 /ug=Rn.7142 /len=458
AI175900	13442	P41156	13443	J04101	13444	TVHUET	13445	98	transcription factor ets-1		rc_AI175900 EST219472 Rattus norvegicus cDNA, 3' end /clone=ROVBG93 /clone_end=3' /gb=AI175900 /ug=Rn.7142 /len=458
AI178267	13446	XM_010735		XP_010735				93n	Homo sapiens membrane protein CH1		rc_AI178267 EST221933 Rattus norvegicus cDNA, 3' end /clone=RPLCO32 /clone_end=3' /gb=AI178267 /ug=Rn.8478 /len=545
AI178267	13447	XM_010735		XP_010735				93n	Homo sapiens membrane protein CH1		rc_AI178267 EST221933 Rattus norvegicus cDNA, 3' end /clone=RPLCO32 /clone_end=3' /gb=AI178267 /ug=Rn.8478 /len=545
AI178267	13448	XM_010735		XP_010735				93n	Homo sapiens membrane protein CH1		EST221833 Rattus norvegicus cDNA, 3' end /clone=RPLCO32 /clone_end=3' /gb=AI178267 /ug=Rn.8478 /len=545
AI178267	13449	XM_010735		XP_010735				93n	Homo sapiens membrane protein CH1		EST221833 Rattus norvegicus cDNA, 3' end /clone=RPLCO32 /clone_end=3' /gb=AI178267 /ug=Rn.8478 /len=545
NIM_031643	13450	NP_113831	13451	NIM_002755	13452	NP_002746	13453	90	Mitogen activated protein kinase 2	AI178835	rc_AI178835 EST222517 Rattus norvegicus cDNA, 3' end /clone=RSPBQ02 /clone_end=3' /gb=AI178835 /ug=Rn.5850 /len=486
AI178610	13454	1DVEA		NIM_002133	13455	1QQ8A		79	Heme oxygenase		EST223333 Rattus norvegicus cDNA, 3' end /clone=RSPCJ56 /clone_end=3' /gb=AI178610 /ug=Rn.3160 /len=604

Table 3.

AI228674	13456	NP_058797	13457	XM_016774	13458	XP_016774	13459	60	Rattus norvegicus Peptidylprolyl isomerase A (cyclophilin A)	NM_017101	rc_AI228674 EST225369 Rattus norvegicus cDNA, 3' end /clone=RBRCX94 /clone_end=3' /gb=AI228674 /ug=Rn.1463 /len=465
AI228031	13460	NP_037050	13461	XM_012898		XP_012898		72	calcium channel alpha 1A	NM_012918	rc_AI228031 EST225726 Rattus norvegicus cDNA, 3' end /clone=RBDD18 /clone_end=3' /gb=AI228031 /ug=Rn.11281 /len=528
AI229237	13462	AAF80980	13463	NM_000913	13464	NP_000904	13465	77	orphantin FQ receptor gene (OFQR)	AF216218	rc_AI229237 EST225932 Rattus norvegicus cDNA, 3' end /clone=RBDF79 /clone_end=3' /gb=AI229237 /ug=Rn.9762 /len=513
AI230256	13466	NP_037192	13467	XM_002273		XP_002273		97	Inhibitor of DNA binding 2, dominant negative helix-loop-helix protein	NM_013060	rc_AI230256 EST226951 Rattus norvegicus cDNA, 3' end /clone=REMCU23 /clone_end=3' /gb=AI230256 /ug=Rn.3272 /len=499
AI230256	13468	NP_037192	13469	XM_002273		XP_002273		97	Inhibitor of DNA binding 2, dominant negative helix-loop-helix protein	NM_013060	EST226951 Rattus norvegicus cDNA, 3' end /clone=REMCU23 /clone_end=3' /gb=AI230256 /ug=Rn.3272 /len=499
AI230260	13470	P13862	13471	X16312	13472	P13862	13473	100	Casein Kinase II beta subunit		EST226955 Rattus norvegicus cDNA, 3' end /clone=REMCU27 /clone_end=3' /gb=AI230260 /ug=Rn.11095 /len=430

Table 3.

AI230614	13474	Q8QXL7	13475	AF153191	13476	Q9Y5B8	13477	87	ATPase Na <sup>+</sup> /K <sup>+</sup> transporting beta 1 polypeptide	AF036761 Rattus norvegicus stearoyl-CoA desaturase 2 mRNA, partial cds
AI230614	13478	Q8QXL7	13479	AF153191	13480	Q9Y5B8	13481	87	ATPase Na <sup>+</sup> /K <sup>+</sup> transporting beta 1 polypeptide	EST227309 Rattus norvegicus cDNA, 3' end /clone=REMC206 /clone_end=3' /gb=AI230614 /ug=Rn.8925 /len=373
AI231500	13482	BAA19517	13483	NM_002767	13484	NP_002758	13485	93	phosphoribosylpyrophosphate synthetase-associated protein	rc_AI231500 EST228188 Rattus norvegicus cDNA, 3' end /clone=REMDK87 /clone_end=3' /gb=AI231500 /ug=Rn.2681 /len=601
AI231519	13486	NP_061996	13487	AJ271734	13488	CAC07404	13489	54	Sialyltransferase 7	rc_AI231519 EST228207 Rattus norvegicus cDNA, 3' end /clone=REMDL26 /clone_end=3' /gb=AI231519 /ug=Rn.6602 /len=482
AI232256	13490	P04166	13491	AB009282	13492	O43169	13493	73	Cytochrome b5, outer mitochondrial membrane isoform	rc_AI232256 EST228944 Rattus norvegicus cDNA, 3' end /clone=RKIBZ24 /clone_end=3' /gb=AI232256 /ug=Rn.10249 /len=566
AI234060	13494	NP_058757	13495	NM_002317	13496	NP_002308	13497	72	Lysyl oxidase	rc_AI234060 EST230748 Rattus norvegicus cDNA, 3' end /clone=RLUCU63 /clone_end=3' /gb=AI234060 /ug=Rn.11372 /len=363
AI235508	13498	NP_114456	13498	NM_006788	13500	NP_006779	13501	71	RaiA binding protein 1	rc_AI235508 EST232068 Rattus norvegicus cDNA, 3' end /clone=ROVCS71 /clone_end=3' /gb=AI235506 /ug=Rn.7107 /len=640
AI235890	13502	CAA34850	13503			Null		No Human	MHC class I RT1.C/E (transmembrane protein)	rc_AI235890 EST232452 Rattus norvegicus cDNA, 3' end /clone=ROVCY28 /clone_end=3' /gb=AI235890 /ug=Rn.14674 /len=387

Table 3.

A1236721	13504	B49023	13505	AF142498	13506	Q8UN89	13507	93	14-3-3 protein gamma- subtype	EST233283 Rattus norvegicus cDNA, 3' end /clone=ROVDJ72 /clone_end=3' /gb=A1236721 /ug=Rn.2503 /len=345 rc_H31722 EST108068 Rattus norvegicus cDNA, 3' end /clone=RPCAW93 /clone_end=3' /gb=H31722 /gi=977138 /ug=Rn.14586 /len=341 rc_H33301 EST108157 Rattus norvegicus cDNA, 3' end /clone=RPNAM37 /clone_end=3' /gb=H33301 /gi=978718 /ug=Rn.14636 /len=383 rc_H33448 EST109458 Rattus norvegicus cDNA, 3' end /clone=RPNAR85 /clone_end=3' /gb=H33448 /gi=978865 /ug=Rn.14640 /len=430 rc_H33486 EST109536 Rattus norvegicus cDNA, 3' end /clone=RPNAS60 /clone_end=3' /gb=H33486 /gi=978903 /ug=Rn.23316 /len=395 S39221 NMDA receptor (alternatively spliced) [rats, forebrain, mRNA, 1052 nt] S39221 NMDA receptor (alternatively spliced) [rats, forebrain, mRNA, 1052 nt]
H31722	13508			Null					EST (not recognized)	
H33301	13509			Null					EST (not recognized)	
H33448	13510			Null					EST (not recognized) Homo sapient hypothetical protein FLJ10385	
H33486	13511	XM_043207		XP_043207				82n		
S39221	13512	AAB22435	13513	NM_021569	13514	NP_067644	13515	96	NMDA receptor	
S39221	13516	AAB22435	13517	NM_021569	13518	NP_067644	13519	96	NMDA receptor	
S43408	13520	AAB23030	13521	NM_005588	13522	NP_005578	13523	74	Endopeptida se-24.18 alpha subunit	S43408 endopeptidase-24.18 alpha subunit [rats, kidney, mRNA, 2928 nt]
S43408	13524	AAB23030	13525	NM_005588	13526	NP_005579	13527	74	Endopeptida se-24.18 alpha subunit	S43408 endopeptidase-24.18 alpha subunit [rats, kidney, mRNA, 2928 nt]

Table 3.

S48785	13528	P35859	13529	M88826	13530	P35858	13531	77	Rattus norvegicus insulin-like growth factor binding protein complex acid-labile subunit gene, complete cds	S48785 insulin-like growth factor binding protein complex acid-labile subunit [rats, liver, mRNA, 2190 nt]
S54212	13532	AAB25290	13533	NM_001842	13534	NP_001833	13535	85	Ciliary neurotrophic factor receptor alpha component	S54212 ciliary neurotrophic factor receptor alpha component [rats, brain, mRNA, 1332 nt]
S56481	13536	AAB25520	13537	M29932	13538	AAA35550	13539	70	Beta 3-adrenergic receptor {spliced version}	S56481 beta 3-adrenergic receptor {spliced version} [rats, colonic tissue, mRNA, 1968 nt]
S58745	13540	AAB20032	13541	NM_003216	13542	NP_003207	13543	79	Thyrotroph embryonic factor=leucine zipper transcription factor	S58745 thyrotroph embryonic factor=leucine zipper transcription factor [rats, pituitary, mRNA, 817 nt]
NM_022847	13544	NP_074038	13545	NM_000926	13546	NP_000917	13547	95	Progesterone receptor	S64044 progesterone receptor steroid-binding domain [rats, mRNA Partial, 548 nt]
S65091	13548	XM_002992		XP_002992				86	Cyclic AMP phosphoprotein, 19kD	S65091 cyclic AMP-regulated phosphoprotein [rats, mRNA, 1030 nt]
S65091	13549	XM_002992		XP_002992				86	Cyclic AMP phosphoprotein, 19kD	S65091 cyclic AMP-regulated phosphoprotein [rats, mRNA, 1030 nt]

Table 3.

S68736	13550	AAB29713	13551	XM_052590	13552	XP_052590	13553	80	Myosin heavy chain	S68736 myosin heavy chain [rats, CCl4-cirrhotic liver fat-storing cell line, mRNA, 2924 nt]
S68736	13554	AAB29713	13555	XM_052590	13556	XP_052590	13557	80	Myosin heavy chain mRNA	myosin heavy chain [rats, CCl4-cirrhotic liver fat-storing cell line, mRNA, 2924 nt]
S68944	13558	AAC60873	13559	XM_052596		XP_052596		60	Na+/Cl(-)-dependent neurotransmitter transporter	S68944 Na+/Cl(-)-dependent neurotransmitter transporter [rats, brain, mRNA, 3762 nt]
S68944	13560	AAC60873	13561	XM_052596		XP_052596		60	Na+/Cl(-)-dependent neurotransmitter transporter	S68944 Na+/Cl(-)-dependent neurotransmitter transporter [rats, brain, mRNA, 3762 nt]
S69160	13562	AAB29945	13563	NM_003301	13564	NP_003282	13565	87	Thyrotropin-releasing hormone receptor (TRH-R)	S69160 thyrotropin-releasing hormone receptor [rats, pituitary gland, mRNA Partial, 1239 nt]
S68383	13566	AAB30132	13567	NM_001140	13568	NP_001131	13569	70	12-lipoxygenase	S68383 12-lipoxygenase [rats, pineal glands, mRNA, 2216 nt]
S73007	13570	AAB20688	13571	NM_000345	13572	NP_000336	13573	73	synuclein SYN1	S73007 synuclein SYN1 (alternatively spliced) [rats, mRNA, 695 nt]
S75280	13574	AAB33049	13575	XM_038637		XP_038637		92	pre-mHSP70	S75280 pre-mHSP70=70 kda heat shock protein precursor [rats, hepatoma cells H4, mRNA Partial, 2090 nt]
S75997	13576	AAB33384	13577	NM_016553	13578	NP_057637	13579	74	Nucleoporin p62 homolog	S75997 nucleoporin p62 homolog (inverted repeats) [rats, Sprague-Dawley, testis, mRNA Partial, 1134 nt]
S76799	13580	NP_036645	13581	XM_006027	13582	XP_006027	13583	93n	BDNF=brain-derived neurotrophic factor (alternatively spliced)	S76799 BDNF=brain-derived neurotrophic factor (alternatively spliced) [rats, brain, mRNA Partial, 421 nt]

Table 3.

S78215	13584	AAB34333	13585	NM_002708	13586	NP_002699	13587	100	Protein phosphatase 1 alpha Interleukin 1beta converting enzyme	protein phosphatase 1 alpha [rats, striatum, mRNA, 1404 nt]
S78676	13588	AAB35431	13589	XM_040782		XP_040782		70	Rattus norvegicus Parathyroid hormone (PTH)	S78676 Interleukin-1 beta-converting enzyme [rats, mRNA Partial, 458 nt]
S80127	13590	NP_058740	13591	NM_000315	13592	NP_000306	13593	71	Rattus sp. homeodomain (pem) mRNA, partial cds	S80127 PTH-(1-84)=hypothalamic parathyroid hormone [rats, Sprague-Dawley, mRNA Partial, 671 nt]
S82627	13594	AAC05016	13595			Null			Rattus norvegicus clone A-2 arylamine N-acetyltransferase mRNA, complete cds /cds=(875,1847) /gb=U01344 /gi=788257 /ug=Rn.11112 /len=2533	S82627 Rattus sp. homeodomain (pem) mRNA, partial cds
S83436	13596	AAB50831	13597	NM_015917	13598	NP_057001	13599	69	rGSTK1-1=glutathione S-transferase subunit 13	EST214426 Rattus norvegicus cDNA, 3' end /clone=RKIBG10 /clone_end=3' /gb=AI105137 /gi=3709294 /ug=Rn.3847 /len=622
U01344	13600	P50297	13601	U80835	13602	g2245376	13603	76	Rattus norvegicus clone A-2 arylamine N-acetyltransferase mRNA, complete cds	U01344 Rattus norvegicus clone A-2 arylamine N-acetyltransferase mRNA, complete cds /cds=(875,1847) /gb=U01344 /gi=788257 /ug=Rn.11112 /len=2533
U03763	13604	AA82112	13605	NM_000929	13608	NP_000920	13607	68	phospholipase	U03763UTR#1 RRU03763 Rattus rattus phospholipase mRNA, complete cds
U03763	13608	AA82112	13608	NM_000929	13610	NP_000920	13611	68	phospholipase	U03763UTR#1 RRU03763 Rattus rattus phospholipase mRNA, complete cds
U03763	13612	AA82112	13613	NM_000929	13614	NP_000920	13615	68	phospholipase	U03763UTR#1 RRU03763 Rattus rattus phospholipase mRNA, complete cds

Table 3.

U05989	13616	AAA18492	13617	U63809	13618	AAC24947	13619	78	Par-4 induced by effectors of apoptosis
									L-arginine:glycine amidinotransferase
U07971	13620	AAA21250	13621	NM_001482	13622	NP_001473	13623	90	U05989 Rattus norvegicus clone par-4 complete cds /cds=(86,1064) /gb=U05989 /gi=456281 /ug=Rn.9127 /len=2122
									U07971 Rattus norvegicus Sprague-Dawley L-arginine-glycine amidinotransferase mRNA, partial cds /cds=(48,1319) /gb=U07971 /gi=475452 /ug=Rn.1500 /len=2260
U08260	13624	I76557	13625	L76224	13626	Q14957	13627	57	U08260 Rattus norvegicus Sprague-Dawley N-methyl-D-aspartate receptor NMDAR2D subunit mRNA, complete cds /cds=(85,4056) /gb=U08260 /gi=475551 /ug=Rn.10063 /len=4957
U09361	13628	AAA56909	13629	XM_005348	13630	XP_006348	13631	56	U09361 RNU08361 Rattus norvegicus clone p17.1 tenascin mRNA, partial cds
									U09631 Rattus norvegicus VIP2 vasoactive intestinal peptide receptor mRNA, complete cds /cds=(115,1428) /gb=U09631 /gi=495195 /ug=Rn.10011 /len=3357
U09631	13632	AAB60459	13633	XM_004641		XP_004641		87	U10279 Rattus norvegicus Sprague-Dawley sodium-dependent nucleoside transporter (rCNT1) mRNA, complete cds /cds=(156,2102) /gb=U10279 /gi=510272 /ug=Rn.10517 /len=2401
U10279	13634	A54892	13635	U62868	13636	AAB53839	13637	82	





Table 3.

U19516	13659	Q64350	13660	U23028	13661	Q13144	13662	88	Rattus norvegicus Initiation factor eIF-2B $\alpha$ mRNA, complete cds /cds=(34,2184) /gb=U19516 /gi=924598 /ug=Rn.10607 /len=2488
U24489	13663	g1336153		M26856	13664	g180984		70	U24489 Rattus norvegicus tenascin-X mRNA, partial cds /cds=(0,614) /gb=U24489 /gi=841425 /ug=Rn.10225 /len=783
U26397	13665	AAB01069	13666	NM_004027	13667	NP_004018	13668	93	U26397 Rattus norvegicus inositol polyphosphate 4-phosphatase mRNA, complete cds /cds=(286,3105) /gb=U26397 /gi=944912 /ug=Rn.11215 /len=5582
U27322	13669	AAC52235	13670	NM_000707	13671	NP_000688	13672	75	U27322 Rattus norvegicus arginine-vasopressin V1b receptor mRNA, complete cds /cds=(541,1806) /gb=U27322 /gi=945040 /ug=Rn.10086 /len=2559
U28927	13673	AAC52867	13674	U27699	13675	AA087029	13676	79	U28927 Rattus norvegicus liver Na <sup>+</sup> /Cl <sup>-</sup> betaine/GABA transporter mRNA, complete cds /cds=(304,2190) /gb=U28927 /gi=881597 /ug=Rn.11352 /len=2561
U30381	13677	Q62806	13678	AF039019	13679	Q9UQR1	13680	97	U30381 Rattus norvegicus zinc finger binding protein mRNA, complete cds /cds=(387,2771) /gb=U30381 /gi=1373020 /ug=Rn.11383 /len=2772
U30813	13681			Null					U30813cds RNU30813 Rattus norvegicus aspartyl-tRNA synthetase (Pai-DRS1) pseudogene, complete cds
U32498	13682	AAC52265	13683	NM_021807	13684	NP_068579	13685	94	U32498 RNU32498 Rattus norvegicus rsec8 mRNA, partial cds

Table 3.

U33287	13686	P51868	13687	D55655	13688	O14858	13689	87	CALSEQUSTRIN, CARDIAC MUSCLE ISOFORM PRECURSOR	U33287 Rattus norvegicus calsequstrin mRNA, complete cds /cds=(133,1374) /gb=U33287 /gi=888306 /ug=Rn.10111 /len=1681
U35244	13690	AAC52985	13691	NM_022916	13692	NP_075067	13693	93	vacuolar protein sorting homolog r-vps33a	U35244 Rat vacuolar protein sorting homolog r-vps33a mRNA, complete cds /cds=(66,1859) /gb=U35244 /gi=1477487 /ug=Rn.1285 /len=3269
U35244	13694	AAC52985	13695	NM_022916	13696	NP_075067	13697	93	vacuolar protein sorting homolog r-vps33a	U35244 Rat vacuolar protein sorting homolog r-vps33a mRNA, complete cds /cds=(66,1859) /gb=U35244 /gi=1477487 /ug=Rn.1285 /len=3269
U35245	13698	AAC52986	13699	AF308803	13700	AAG34680	13701	96	Rat vacuolar protein sorting homolog r-vps33b mRNA	U35245 RNU35245 Rat vacuolar protein sorting homolog r-vps33b mRNA, complete cds
U35245	13702	AAC52986	13703	AF308803	13704	AAG34680	13705	96	Vacuolar protein sorting homolog r-vps33b	re_A1059863 UI-R-C1-1a-d-01-O-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C1-1a-d-01-O-UI /clone_end=3' /gb=A1059863 /ug=Rn.10661 /len=534
U35345	13708	AAA79064	13707	NM_002577	13708	NP_002568	13709	91	serine/threonine kinase	U35345 Rattus norvegicus serine/threonine kinase (gamma-PAK) mRNA, complete cds /cds=(48,1622) /gb=U35345 /gi=1016004 /ug=Rn.10116 /len=1756
U36771	13710	AAB39470	13711	XM_034422	13712	XP_034422	13713	90	sn-glycerol 3-phosphate acyltransferase	U36771 RNU36771 Rattus norvegicus glycerol 3-phosphate acyltransferase mRNA, nuclear gene encoding mitochondrial protein, partial cds

A1059863

Table 3.

U36773	13714	AAB39470	13715	XIM_034422	13716	XP_034422	13717	90	sn-glycerol 3-phosphate acyltransferase	U36773 RNU36773 Rattus norvegicus glycerol-3-phosphate acyltransferase mRNA, nuclear gene encoding mitochondrial protein, partial cds
U36773	13718	AAB39470	13719	XIM_034422	13720	XP_034422	13721	90	sn-glycerol 3-phosphate acyltransferase	U36773 RNU36773 Rattus norvegicus glycerol-3-phosphate acyltransferase mRNA, nuclear gene encoding mitochondrial protein, partial cds
U36786	13722	AAA92008	13723	NIM_020633	13724	NP_065684	13725	27	Putative pheromone receptor VN7	U36786 Rattus norvegicus putative pheromone receptor VN7 mRNA, complete cds /cds=(29,850) /gb=U36786 /gi=1039471 /ug=Rn.10227 /len=1055
U38253	13726	AAC52788	13727	NIM_020365	13728	NP_065098	13729	87	Rattus norvegicus Initiation factor eIF-2B gamma subunit (eIF-2B gamma) mRNA, complete cds	Rat mixed-tissue library Rattus norvegicus cDNA clone rx05013 3', mRNA sequence [Rattus norvegicus]
U38253	13730	AAC52788	13731	NIM_020365	13732	NP_065098	13733	87	Rattus norvegicus Initiation factor eIF-2B gamma subunit (eIF-2B gamma) mRNA, complete cds	U38253 Rattus norvegicus Initiation factor eIF-2B gamma subunit (eIF-2B gamma) mRNA, complete cds /cds=(88,1446) /gb=U38253 /gi=1537014 /ug=Rn.10577 /len=1470

Table 3.

U38253	13734	AAC52788	13735	NM_020365	13736	NP_065098	13737	87	Rattus norvegicus Initiation factor eIF-2B gamma subunit (eIF-2B gamma) mRNA, complete cds	AI839441	Rat mixed-tissue library Rattus norvegicus cDNA clone r05013 3', mRNA sequence [Rattus norvegicus] Rattus norvegicus clone BB.1.4.1 unknown Glu-Pro dipeptide repeat protein mRNA, complete cds /cds=(675,1094) /gb=U40628 /gi=1184695 /ug=Rn.4088 /len=1876
U40628	13738	S70008	13739	AF043244	13740	AAC34983	13741	81	Unknown Glu-Pro dipeptide repeat protein		
U40819	13742	AAC52355	13743	AF100763	13744	AAD43027	13745	91	Rattus norvegicus 5' AMP-activated protein kinase alpha-1 catalytic subunit		U40819 RNU40819 Rattus norvegicus 5'-AMP-activated protein kinase alpha-1 catalytic subunit mRNA, complete cds
U47110	13746	AAB19127	13747	AF035562	13748	AAB88198	13749	94	peripheral plasma membrane protein CASK		U47110 Rattus norvegicus peripheral plasma membrane protein CASK mRNA, complete cds /cds=(357,3086) /gb=U47110 /gi=1199823 /ug=Rn.10616 /len=3819
U48247	13750	AAC72251	13751	NM_005953	13752	NM_005953		85	protein kinase C-binding protein Enigma		U48247 RNU48247 Rattus norvegicus protein kinase C-binding protein Enigma mRNA, complete cds
U48247	13753	AAC72251	13754	NM_005953	13755	NM_005953		85	protein kinase C-binding protein Enigma		U48247 RNU48247 Rattus norvegicus protein kinase C-binding protein Enigma mRNA, complete cds

Table 3.

U48592	13756	AAB03502	13757	NM_002182	13758	NP_002173	13759	86	Interleukin-1 receptor accessory protein	U48592 Rattus norvegicus interleukin-1 receptor accessory protein (IL-1) mRNA, complete cds /cds=(102,1814) /gb=U48592 /gi=1403888 /ug=Rn.10511 /len=1882
U49935	13760	AAB40713	13761	M80814	13762	AA51927	13763	96	cyclin D3.	U49935 Rattus norvegicus cyclin D3 gene, partial cds /cds=(52,1194) /gb=U49935 /gi=1903380 /ug=Rn.10969 /len=1426
U49935	13764	AAB40713	13765	M80814	13766	AA51927	13767	96	cyclin D3.	U49935 Rattus norvegicus cyclin D3 gene, partial cds
U50717	13768	AAC52643	13769	XM_012060	13772	XP_012060		88	Synaptic density protein PSD-93 mRNA, partial cds	U50717 Rattus norvegicus synaptic density protein PSD-93 mRNA, partial cds
U55938	13770	AAB50061	13771	XM_008782	13772	XP_008782	13773	91	GD3 alpha 2,8-sialyltransferase mRNA	U55938 Rattus norvegicus GD3 alpha 2,8-sialyltransferase mRNA complete cds /cds=(52,1194) /gb=U55938 /gi=1903380 /ug=Rn.10969 /len=1426
U57049	13774	AAB01988	13775			Null			Methylenetetrahydrofolate reductase mRNA, partial cds	U57049 Rattus norvegicus methylenetetrahydrofolate reductase mRNA, partial cds /cds=(0,485) /gb=U57049 /gi=1354771 /ug=Rn.10494 /len=1250
U62667	13776	P87574	13777	U25997	13778	P52823	13779	95	Stannocalcin 1	U62667 Rattus norvegicus stannocalcin (rSTC) mRNA, complete cds /cds=(109,852) /gb=U62667 /gi=1762530 /ug=Rn.10847 /len=1004
U65007	13780	PC4221	13781	M15326	13782	TVHUME	13783	88	Met proto-oncogene	U65007 Rattus norvegicus hepatocyte growth factor receptor mRNA, complete cds /cds=(0,4148) /gb=U65007 /gi=1678659 /ug=Rn.10817 /len=4189
U67140	13784	AAB48590	13785	XM_028634		XP_028634		73	PSD-95/SAP90-associated protein-4	U67140 Rattus norvegicus PSD-95/SAP90-associated protein-4 mRNA, complete cds /cds=(204,3182) /gb=U67140 /gi=1864092 /ug=Rn.11279 /len=3348

Table 3.

U68172	13786	AAB08481	13787	NM_002457	13788	NP_002448	13789	79	mucin (MUC2)	U68172 mRNA RNU68172 Rattus norvegicus mucin (MUC2) gene, partial cds
U70372	13780	AAC53031	13791			Null		No Human	PAM COOH-terminal interactor protein 2	U70372 Rattus norvegicus PAM COOH-terminal interactor protein 2 mRNA, complete cds /cds=(0,1180) /gb=U70372 /gi=1698778 /ug=Rn.10509 /len=1345
U70988	13792	AAC52961	13793	NM_001557	13794	NP_001548	13795	70	Chemokine (C-X-C) receptor 2	U70988cds RNU70988 Rattus norvegicus CXCR chemokine receptor (CXCR2) gene, complete cds
U72741	13796	P97840	13797	AB006782	13798	O00182	13799	73	Lectin, galactose binding, soluble 9 (Galeclh-9)	U72741 Rattus norvegicus 36 Kd beta-galactoside binding lectin mRNA, complete cds /cds=(5,1069) /gb=U72741 /gi=2351552 /ug=Rn.10706 /len=1070
U73174	13800	AAB18132	13801	XM_005119		1GRT	13802	84	Rattus norvegicus glutathione reductase mRNA, complete cds	U73174 RNU73174 Rattus norvegicus glutathione reductase mRNA, complete cds
U73174	13803	AAB18132	13804	XM_005119		1GRT	13805	84	Rattus norvegicus glutathione reductase mRNA, complete cds	U73174 RNU73174 Rattus norvegicus glutathione reductase mRNA, complete cds
U73174	13806	AAB18132	13807	XM_005119		1GRT	13808	84	Rattus norvegicus glutathione reductase mRNA, complete cds	RNU73174 Rattus norvegicus glutathione reductase mRNA, complete cds
U75398	13808	AAB38708	13810	NM_001964	13811	NP_001955	13812	66	Krox-24 mRNA, partial cds	U75398 RNKROX1 Rattus norvegicus Krox-24 mRNA, partial cds

Table 3.

U75400	13813	AAB38315	13814	NM_004766	13815	NP_004757	13816	50	Costomer beta subunit mRNA	RNCOABS2 Rattus norvegicus coatomer beta subunit mRNA, partial cds and 3' untranslated sequence
U75923	13817	AAB81886	13818			Null		No Human		U75923UTR#1 SEG_RNTRNAIS3 Rattus norvegicus isoleucyl tRNA synthetase mRNA, partial cds and 3' untranslated sequence
U75928	13819	NP_036788	13820	NM_003118	13821	NP_003109	13822	83	Secreted acidic cysteine rich glycoprotein (osteonection)	U75928UTR#1 RNU75928 Rattus norvegicus SPARC mRNA, 3' untranslated region, partial sequence
U76635	13823	AAB71495	13824	NM_005223	13825	NP_005214	13826	71	Deoxyribonu lease I (DNaseI) ??	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00682 3', mRNA sequence [Rattus norvegicus]
U76635	13827	AAB71495	13828	NM_005223	13829	NP_005214	13830	71	Deoxyribonu lease I (DNaseI) ??	Rat mixed-tissue library Rattus norvegicus cDNA clone rx00682 3', mRNA sequence [Rattus norvegicus]
U76997	13831	AAB19066	13832	NM_005575	13833	NP_005566	13834	83	Insulin- regulated membrane aminopeptid ase IRAP	U76997 Rattus norvegicus insulin- regulated membrane aminopeptidase IRAP mRNA, complete cds /cds=(71,3148) /gb=U76997 /gi=1874502 /ug=Rn.10614 /len=3197
U81492	13835	AAC17704	13836	NM_000588	13837	NP_000579	13838	29	Interleukin-3 beta	U81492 Rattus norvegicus Interleukin-3 beta mRNA, complete cds /cds=(23,532) /gb=U81492 /gi=1763670 /ug=Rn.10862 /len=562
U82623	13839	AAB91537	13840	NM_006788	13841	NP_006779	13842	71	cytochrome	U82623 Rattus norvegicus cytochrome mRNA, complete cds /cds=(119,2200) /gb=U82623 /gi=2697021 /ug=Rn.7107 /len=3602
AF375463	13843	AAK56958	13844	NM_032298	13845	NP_115674	13846	49	Synaptotagm in 10 mRNA	U85513 RNU85513 Rattus norvegicus synaptotagmin X mRNA, partial cds



Table 3.

U86635	13847	A29036	13848	J05459	13849	3GTUD	13850	87	Glutathione S-transferase, mu 5	U86635 RNU86635 Rattus norvegicus glutathione s-transferase M5 mRNA, complete cds
U86635	13851	A29036	13852	J05459	13853	3GTUD	13854	87	Glutathione S-transferase, mu 5	U86635 RNU86635 Rattus norvegicus glutathione s-transferase M5 mRNA, complete cds
U86635	13855	A29036	13856	J05459	13857	3GTUD	13858	87	Glutathione S-transferase, mu 5	RNU86635 Rattus norvegicus glutathione s-transferase M5 mRNA, complete cds
U87627	13859	Q63344	13860	U81800	13861	O15427	13862	88	Monocarboxylate transporter	U87627 Rattus norvegicus putative monocarboxylate transporter (MCT3) mRNA, complete cds /cds=(89,1504) /gb=U87627 /gi=2463650 /ug=Rn.10826 /len=2118
U90121	13863	AAB49723	13864	NIM_000361	13865	NP_000352	13866	59	thrombospondin	U90121 Rattus norvegicus thrombospondin mRNA, partial cds /cds=(0,1385) /gb=U90121 /gi=1890291 /ug=Rn.10716 /len=1665
U90215	13867	AAB49989	13868	NIM_005668	13869	NP_005659	13870	97	polysialyltransferase	U90215 RNU90215 Rattus norvegicus polysialyltransferase mRNA, partial cds
U91679	13871	AAC12859	13872	NIM_017521	13873	NP_059991	13874	70	ETS domain transcription factor Pet-1 mRNA	U91679 Rattus norvegicus ETS domain transcription factor Pet-1 mRNA, complete cds /cds=(111,1133) /gb=U91679 /gi=3033418 /ug=Rn.9775 /len=1722
U91847	13875	AAB51285	13876	XM_043351		XP_043351		94	p38 mitogen activated protein kinase	rc_AA924542 U1-R-A1-dz-e-12-O-U1.s1 Rattus norvegicus cDNA, 3' end /clone=U1-R-A1-dz-e-12-O-U1 /clone_end=3' /gb=AA924542 /gi=3071678 /ug=Rn.3293 /len=487
U92289	13877	AAB71762	13878	U31099	13879	Q13258	13880	65	Prostaglandin D2 receptor	U92289 Rattus norvegicus prostaglandin D2 receptor mRNA, complete cds /cds=(60,1133) /gb=U92289 /gi=2459874 /ug=Rn.11409 /len=1315

Table 3.

U92803	13881	AAB61572	13882	NM_001296	13883	NP_001287	13884	58	CC-chemokine-binding receptor JAB51 Kv4.3 (potassium voltage-gated channel)	U92803 Rattus norvegicus CCR10-related receptor (CCR10R) mRNA, complete cds /cds=(134,1282) /gb=U92803 /gi=2213806 /ug=Rn.10771 /len=1348
U92897	13885	AAB53321	13886	XM_052131		XP_052131		86		U92897 RNU92897 Rattus norvegicus Kv4.3 mRNA, partial cds
U95052	13887	AAC53095	13888	U76111	13889	AAC51166	13890	98n	Mus musculus translation repressor NAT1 mRNA, complete cds	U95052UTR#1 RNU95052 Rattus norvegicus translation repressor NAT1 mRNA, partial 3'UTR
U95052	13891	AAC53085	13892	U76111	13893	AAC51166	13894	98n	Mus musculus translation repressor NAT1 mRNA, complete cds	U95052UTR#1 RNU95052 Rattus norvegicus translation repressor NAT1 mRNA, partial 3'UTR
U95920	13895	AAB54066	13896	L27841	13897	A54103	13898	83	Pericentriolar material 1	Rattus norvegicus pericentriolar material PCM-1 (PCM-1) mRNA, partial cds /cds=(0,1079) /gb=U95920 /gi=2078540 /ug=Rn.11026 /len=1135
X00975	13899	PD4466	13900	M21812	13901	AAA91848	13902	99	Myosin, light polypeptide 2, alkali, ventricular, skeletal, slow	X00975 Rat MLC2 gene for muscle myosin light chain 2 /cds=(58,565) /gb=X00975 /gi=56726 /ug=Rn.6534 /len=648

Table 3.

X00975	13903	P04466	13904	M21812	13805	AAA91848	13906	99	Myosin, light polypeptide 2, alkali; ventricular, skeletal, slow	X00975 Rat MLC2 gene for muscle myosin light chain 2 /cds=(56,565) /gb=X00975 /gi=56726 /ug=Rn.6534 /len=648
X00975	13907	P04466	13908	M21812	13909	AAA91848	13910	99	Myosin, light polypeptide 2, alkali; ventricular, skeletal, slow	X00975 Rat MLC2 gene for muscle myosin light chain 2 /cds=(56,565) /gb=X00975 /gi=56726 /ug=Rn.6534 /len=648
X00975	13911	P04466	13912	M21812	13913	AAA91848	13914	99	Myosin, light polypeptide 2, alkali; ventricular, skeletal, slow	X00975 Rat MLC2 gene for muscle myosin light chain 2 /cds=(56,565) /gb=X00975 /gi=56726 /ug=Rn.6534 /len=648
X00975	13915	P04466	13916	M21812	13917	AAA91848	13918	99	Myosin, light polypeptide 2, alkali; ventricular, skeletal, slow	Rat MLC2 gene for muscle myosin light chain 2 /cds=(56,565) /gb=X00975 /gi=56726 /ug=Rn.6534 /len=648
X00975	13919	P04466	13920	M21812	13921	AAA91848	13922	99	Myosin, light polypeptide 2, alkali; ventricular, skeletal, slow	Rat MLC2 gene for muscle myosin light chain 2 /cds=(56,565) /gb=X00975 /gi=56726 /ug=Rn.6534 /len=648
X03369	13923	CAA27067	13924	XM_004389		XP_004389		90	beta-tubulin T beta15	X03369 Rat mRNA for beta-tubulin T beta15 /cds=(8,1345) /gb=X03369 /gi=57426 /ug=Rn.11235 /len=1592

Table 3.

X04310	13925	CAA27850	13926	NM_004931	13927	NP_004922	13928	40	37K chain of CD8 antigen	X04310 Rat thymocyte mRNA for 37K chain of CD8 antigen /cds=(39,665) /gb=X04310 /gi=55917 /ug=Rn.10330 /len=1281
X15734	13929	P13444	13930	D49357	13931	Q00266	13932	95	S-ADENOSYL METHIONIN E SYNTHETASE ALPHA AND BETA FORMS	X15734 Rat mRNA for e-adenosylmethionine synthetase /cds=(72,1265) /gb=X15734 /gi=57183 /ug=Rn.10418 /len=1840
X16554	13933	KIRTR1	13934	Y00971	13935	KIHUR1	13936	100	Phosphoribosyl pyrophosphate synthetase 1	Rat PRPSI mRNA for phosphoribosylpyrophosphate synthetase subunit I (EC 2.7.6.1) /cds=(111,1067) /gb=X16554 /gi=56976 /ug=Rn.9761 /len=1981
X53588	13937	CAA37657	13938	M89051	13939	Q05810	13940	93	Rat mRNA for glucokinase, alternatively spliced GK2	X53588 Rat mRNA for glucokinase, alternatively spliced GK2 (EC 2.7.1.1) /cds=(91,1488) /gb=X53588 /gi=56239 /ug=Rn.10447 /len=2326
X54400	13941	CAA38266	13942	XM_052255		XP_052255		87	Hepatocyte growth factor (scatter factor) pcRF104	Rat mRNA for hepatocyte growth factor /cds=(41,2227) /gb=X54400 /gi=56353 /ug=Rn.10468 /len=2431
X55660	13943	CAA39193	13944	NM_002569	13945	NP_002560	13946	85	pcRF104 mRNA for furin	X55660 Rat pcRF104 mRNA for furin /cds=(443,2824) /gb=X55660 /gi=56171 /ug=Rn.3220 /len=4259
X55660	13947	CAA39193	13948	NM_002569	13949	NP_002560	13950	85	furin prepeptide	X55660 Rat pcRF104 mRNA for furin /cds=(443,2824) /gb=X55660 /gi=56171 /ug=Rn.3220 /len=4259

Table 3.

X56747	13951	CAA40069	13952	NM_002299	13953	NP_002290	13954	76	Rat mRNA for fetal intestinal lactase-philorizin hydrolase	X56747cds RRFILPHR Rat mRNA for fetal intestinal lactase-philorizin hydrolase precursor, partial
X57523	13955	CAA40742	13956	L21205	13957	AAC12903	13958	65	R.norvegicus mtp1 mRNA	X57523 R.norvegicus mtp1 mRNA /cds=(0,2224) /gb=X57523 /gi=56716 /ug=Rn.10763 /len=2664
X57523	13959	CAA40742	13960	NM_000593	13961	NP_000584	13962	65	mtp1	X57523 R.norvegicus mtp1 mRNA /cds=(0,2224) /gb=X57523 /gi=56716 /ug=Rn.10763 /len=2664
X59249	13963	CAA41937	13984	L20463	13965	AAA16365	13966	70	Putative G-protein coupled receptor	X59249 Rat mRNA for putative G-protein coupled receptor /cds=(128,1090) /gb=X59249 /gi=56307 /ug=Rn.22612 /len=1594
X61296	13967			Null				80	L1 retroposon, ORF2 mRNA (partial)	X61296cds#2 RNL1RTO2C R.norvegicus L1 retroposon, ORF2 mRNA (partial)
X63995	13968	S30804	13969	L05568	13970	A47398	13971	90	Solute carrier family 6 (neurotransmitter transporter, serotonin), member 4 (5-hydroxytryptamine (serotonin) transporter)	X63995 R.norvegicus NTT mRNA /cds=(160,2052) /gb=X63995 /gi=56779 /ug=Rn.1663 /len=3180
X66842	13972	P30994	13973	X77307	13974	P41595	13975	81	5-hydroxytryptamine (serotonin) receptor 2B	X66842 R.norvegicus SRL mRNA for stomach fundus serotonin receptor /cds=(226,1665) /gb=X66842 /gi=57304 /ug=Rn.10425 /len=2003

Table 3.

X72914	13976	CAA51419	13977	XM_009338	13978	XP_009338	13979	79	cartilage oligomeric matrix protein	X72914 R.norvegicus mRNA for cartilage oligomeric matrix protein /cds=(6,2273) /gb=X72914 /gi=297438 /ug=Rn.10343 /len=2410
X76453	13980	S42794	13981	X92814	13982	P53816	13983	82	Hras-revertant gene 107	Rattus norvegicus (Sprague Dawley) H-rev107 mRNA /cds=(97,579) /gb=X76453 /gi=433982 /ug=Rn.11377 /len=968
X77209	13984	P55083	13985	AF134726	13986	g4529894		94	Hsp70-3 gene	X77209 R.norvegicus Hsp70-3 gene /cds=(13,1938) /gb=X77209 /gi=1814002 /ug=Rn.22532 /len=2546
X77209	13987	CAA54424	13988	XM_004187		XP_004187		88	heat shock protein 70	nc_AA875620 UI-R-E0-cv-d-12-O-U1.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cv-d-12-O-U1 /clone_end=3' /gb=AA875620 /gi=2980568 /ug=Rn.2978 /len=387
X82152	13989	CAA57648	13990	XM_001782	13991	XP_001782	13992	81	fibromodulin	X82152 R.norvegicus mRNA for fibromodulin /cds=(53,1183) /gb=X82152 /gi=602883 /ug=Rn.8778 /len=2943
X83399	13993	CAA58316	13994	NM_001968	13995	NP_001969	13996	99	eIF-4E dual specificity phosphatase, MKP-3	X83399 R.norvegicus mRNA eIF-4E /cds=(48,701) /gb=X83399 /gi=1240052 /ug=Rn.11275 /len=1647
X84185	13997	CAA63895	13998	XM_017018		XP_017018		83	R.norvegicus mRNA for novel gene expressed in circadian manner, clone SCN8	X84185cds RNMKP3 R.norvegicus mRNA for dual specificity phosphatase, MKP-3
X85850	13999			Null				No Human		X85850mRNA RNSCN8 R.norvegicus mRNA for novel gene expressed in circadian manner, clone SCN8
X97374	14000	CAA66043	14001	NM_006228	14002	NP_006219	14003	68	Prepronociceptin	X97374exon RNPPNEX2 R.norvegicus gene encoding prepronociceptin, exon 2

Table 3.

X97443	14004	CAA06212	14005	X97442	14008	P49755	14007	96	Integral membrane protein Tmp21-I (p23)	X97443 R.norvegicus mRNA for transmembrane protein Tmp21-I /cds=(0.611) /gb=X97443 /gi=1360135 /ug=Rn.22674 /len=706
X97443	14008	CAA06212	14009	X97442	14010	P49755	14011	96	Integral membrane protein Tmp21-I (p23)	Rattus norvegicus mRNA for transmembrane protein Tmp21-I /cds=(0.611) /gb=X97443 /gi=1360135 /ug=Rn.22674 /len=706
Y00404	14012	CAA68465	14013	NM_000454	14014	NP_000445	14015	83	Copper-zinc-containing superoxide dismutase	Y00404 Rat mRNA for copper-zinc-containing superoxide dismutase /cds=(93.557) /gb=Y00404 /gi=57274 /ug=Rn.6059 /len=650
Z15123	14016	AAA42105	14017	BC000171	14018	AAH00171	14019	93	S-adenosylmethionine decarboxylase 1	Z15123exon#5 RNAMDX48 R.norvegicus S-adenosylmethionine decarboxylase gene, exons 4-8
Z15123	14020	AAA42105	14021	BC000171	14022	AAH00171	14023	93	S-adenosylmethionine decarboxylase 1	Z15123exon#5 RNAMDX48 Rattus norvegicus S-adenosylmethionine decarboxylase gene, exons 4-8
Z17319	14024	CAA78967	14025	J05073	14026	P15259	14027	76	Phosphoglyceromutase	Z17319 R.norvegicus gene for phosphoglyceromutase /cds=(1181,1942) /gb=Z17319 /gi=297110 /ug=Rn.9738 /len=2126
Z22812	14028	CAA80465	14029	NM_004633	14030	NP_004624	14031	58	Interleukin-1 receptor type 2	Z22812 R.norvegicus Interleukin-1 receptor type 2 /cds=(123,1373) /gb=Z22812 /gi=311407 /ug=Rn.10758 /len=1380
Z50144	14032	NP_058889	14033	NM_016228	14034	NP_057312	14035	69	Kynurenine aminotransferase II	Z50144 R.norvegicus mRNA for kynurenine/alpha-aminoadipate aminotransferase /cds=(112,1389) /gb=Z50144 /gi=1050751 /ug=Rn.11133 /len=1807

NM\_017193

Table 3.

Z78279	14036	CAB01633	14037	S64596	14038	AAB27856	14039	84	Collagen alpha1 type I	U75405	U75405UTR#1 RNU75405 Rattus norvegicus alpha 1 type I collagen mRNA, 3' untranslated region, partial sequence
Z78279	14040	CAB01633	14041	S64596	14042	AAB27856	14043	84	Collagen alpha1	M27207	M27207mRNA RATCOL1A1 Rattus norvegicus (clone pL8-3-1) alpha-1 type I collagen mRNA, 3' UTR
Z78279	14044	CAB01633	14045	S64596	14046	AAB27856	14047	84	Collagen alpha1 type I		Z78279 R.norvegicus mRNA for collagen alpha1 type I /cds=(0,4361) /gb=Z78279 /gi=2894105 /ug=Rn.2953 /len=5721
AJ001528	14048	TS4021	14049	U28424	14050	2204254A	14051	96	Serine/threo nine kinase 3 (Slc20, yeast homolog)		AJ001528cds RNIMST2KIN Rattus norvegicus mRNA for MST2 kinase
AJ002556	14052	CAA05555	14053	AB058781	14054	BAB47507	14055	83	E-STOP protein		AJ002556 RNAJ2556 Rattus norvegicus mRNA for STOP protein
AJ132230	14056	CAA10610	14057	XM_007275	14058	XP_007275	14059	67	B1 bradykinin receptor		AJ132230 RNO132230 Rattus norvegicus mRNA for B1 bradykinin receptor
AJ132230	14060	CAA10610	14061	XM_007275	14062	XP_007275	14063	69	B1 bradykinin receptor		RNO132230 Rattus norvegicus mRNA for B1 bradykinin receptor
D10108	14064	P28576	14065	NIM_002607	14066	NP_002598	14067	82	R.norvegicus mRNA for platelet- derived growth factor A chain (partial)	Z14120	Z14120cds RNPDGFACP R.norvegicus mRNA for platelet-derived growth factor A chain (partial)
D12524	14068	BAA02094	14069	NIM_000222	14070	NP_000213	14071	79	c-kit receptor tyrosine kinase.		D12524 RATCKITPO Rat mRNA for c-kit receptor tyrosine kinase



Table 3.

D13213	14072	BAA02500	14073	NM_000836	14074	NP_000827	14075	77	N-methyl-D-aspartate receptor subunit	D13213 RATNMDAR1 Rat mRNA for N-methyl-D-aspartate receptor subunit (NMDAR2D-1)
D13912	14076	AAB58730	14077	M14096	14078	A28815	14079	77	Cytochrome P450, subfamily IIIA, polypeptide 3	RATP450 Rat mRNA for cytochrome P-450
D13982	14080	2107313A	14081	M20881	14082	P11169	14083	83	Solute carrier family 2 A3 (neuron glucose transporter)	D13982 RATGLUT3 Rat mRNA for neuron glucose transporter
D16817	14084	BAA04092	14085	NM_000843	14086	NP_000834	14087	66	Metabotropic glutamate receptor mGluR7	D16817 RATMGRM Rat mRNA for metabotropic glutamate receptor mGluR7
D80401	14088	BAA14397	14089	XM_012353		XP_012353		75	Dihydropyrimidinase	D80401 RATAKGE2 Rat mRNA for dihydropyrimidinase
D80401	14090	BAA14397	14091	XM_012353		XP_012353		75	Dihydropyrimidinase	RATAKGE2 Rat mRNA for dihydropyrimidinase
E01050	14082	NP_085914	14093	NM_000030	14094	NP_000021	14095	76	Rattus norvegicus Alanine-glyoxylate aminotransferase (Serine-pyruvate aminotransferase) (Agxt), mRNA	E01050cds cDNA encoding rat serine pyruvate aminotransferase

NM\_030656

Table 3.

E01050	14096	NP_085514	14097	NM_000030	14098	NP_000021	14099	76	Rattus norvegicus Alanine- glyoxylate amino transferase (Serine- pyruvate amino transferase) (Agdt), mRNA	NM_030656	E01050cds cDNA encoding rat serine pyruvate aminotransferase
E13557	14100	NP_068518	14101	XM_029712		XP_029712		86	Cysteine- sulfinate decarboxylase (Csad)	NM_021750	E13557cds Rat mRNA for GADII
E13557	14102	NP_068518	14103	XM_029712		XP_029712		86	Cysteine- sulfinate decarboxylase (Csad)	NM_021750	E13557cds Rat mRNA for GADII
L07380	14104	NP_036982	14105	XM_030066		XP_030066		79	growth hormone- releasing factor receptor		L07380 RATGHRFRG Rattus rattus (clone pGR2) growth hormone-releasing factor receptor mRNA sequence
L07380	14108	NP_036982	14107	XM_030066		XP_030066		79	growth hormone- releasing factor receptor		L07380 RATGHRFRG Rattus rattus (clone pGR2) growth hormone-releasing factor receptor mRNA sequence
L11035	14108	AF327018	14109	AAK27360				81n	Rat T-cell receptor alpha chain mRNA for RT1L haplotype		L11035 RATTCAVAS Rat T-cell receptor alpha chain mRNA for RT1L haplotype

Table 3.

L14002	14110	Null	14112	14139	14113	Q15147	14114	97	Polymorphic immunoglobulin receptor AATTA- containing 3'UTR mRNA sequence
L15556	14111		Q9QW07						L14002UTR#1 RATPIGRB Rattus norvegicus polymorphic immunoglobulin receptor AATTAA-containing 3'UTR mRNA sequence
L16995	14115	XM_008168		XP_008168				82n	Rattus norvegicus phospholipase C (BETA4) mRNA /cds=UNKNOWN /gb=L15556 /gi=404071 /ug=Rn.6155 /len=5278
L26283	14116							No Human	L16995 RATADD1A Rat add1 mRNA sequence L26283 Rattus norvegicus (clone 180) FSH-regulated protein mRNA /cds=UNKNOWN /gb=L26283 /gi=425470 /ug=Rn.10415 /len=3678
M13100	14117	Null							M13100cds#2 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	14118	Null							M13100cds#3 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)
M13100	14119	Null							M13100cds#8 RATLIN3A Rat long interspersed repetitive DNA sequence LINE3 (L1Rn)

Table 3.

M61725	14120	B40439	14121	X56687	14122	S18193	14123	98	Rat transcription factor UBF1 mRNA	M61725 RATUBF2 Rat transcription factor UBF2 mRNA
M61725	14124	B40439	14125	X56687	14126	S18193	14127	98	Rat transcription factor UBF1 mRNA	RATUBF2 Rat transcription factor UBF2 mRNA
M92430	14128	AAA18948	14129	NM_013964	14130	NP_039258	14131	88n	Rat neu differentiation factor mRNA	M92430 Rat neu differentiation factor mRNA /cde=UNKNOWN /gb=M92430 /gi=205665 /ug=Rn.10311 /len=1867
M99567	14132	A45493		U26425	14133	I38894		92	Rattus norvegicus phospholipase C beta-3 mRNA, partial cds	M99567 RATPHOCBE Rat phospholipase C beta-3 mRNA
M99567	14134	A45493		U26425	14135	I38894		92	Rattus norvegicus phospholipase C beta-3 mRNA, partial cds	M99567 RATPHOCBE Rat phospholipase C beta-3 mRNA
M99567	14136	A45493		U26425	14137	I38894		92	Rattus norvegicus phospholipase C beta-3 mRNA, partial cds	RATPHOCBE Rat phospholipase C beta-3 mRNA
U30788	14138			Null					Rattus norvegicus Tclone4 mRNA	U30788 Rattus norvegicus Tclone4 mRNA /cde=UNKNOWN /gb=U30788 /gi=1216374 /ug=Rn.6477 /len=2026
X00923	14139	CAA25439		U00021	14140	AAB59424	14141	45	Immunoglobulin epsilon heavy chain	X00923cde RNIGED1 Rat gene for Immunoglobulin epsilon heavy chain

Table 3.

X06150	14142	P13255	14143	X62250	14144	S42827	14145	92	Glycine methyltransf erase	X06150cds RINGMTR Rat mRNA for glycine methyltransferase (EC 2.1.1.20)
X06801	14146	CAA29957	14147	NM_001613	14148	NP_001604	14149	100	Rat mRNA for vaskular alpha-actin	X06801cds RNACTAV Rat mRNA for vaskular alpha-actin
X06801	14150	CAA29957	14151	NM_001613	14152	NP_001604	14153	100	Rat mRNA for vaskular alpha-actin	X06801cds RNACTAV Rat mRNA for vaskular alpha-actin
X06801	14154	CAA29957	14155	NM_001613	14156	NP_001604	14157	100	vaskular alpha-actin	X06801cds RNACTAV Rat mRNA for vaskular alpha-actin
X06801	14158	CAA29957	14159	NM_001613	14160	NP_001604	14161	100	vaskular alpha-actin	X06801cds RNACTAV Rat mRNA for vaskular alpha-actin
X16623	14162	CAA34620	14163	XM_003704		XP_003704		80	Neuraxin	X16623cds RSNEU Rat mRNA for neuraxin
X17607	14164	CAA35609	14165	XM_004030	14166	XP_004030	14167	87	Rat beta-2 adrenergic receptor	X17607cds RSB2AR Rat beta-2 adrenergic receptor gene
X51615	14168	AAD50911	14168	XM_007169		XP_007169		86n	connexin protein Cx26	X51615 RRCX26 R.rattus RNA for connexin protein Cx26
X53052	14170	CAA37219	14171	NM_012064	14172	NP_036198	14173	85	Rat mRNA for main intrinsic protein	X53052cds RRMIP Rat mRNA for main intrinsic protein
X53455	14174	CAA37535	14175	XM_030840	14176	XP_030840	14177	69	microtubule- associated protein 2	X53455cds RRMIP2 Rat mRNA for microtubule-associated protein 2
X56327	14178	CAA39766	14179	V00508	14180	P02100	14181	75	Epsilon 2 globin	X56327cds RNEP2GL Rattus norvegicus epsilon 2 globin gene
X56327	14182	CAA39766	14183	V00508	14184	P02100	14185	75	Epsilon 2 globin	X56327cds RNEP2GL Rattus norvegicus epsilon 2 globin gene
X57988	14186	CAA41054	14187	NM_000318	14188	NP_000309	14189	88	Peroxisome assembly factor-1	E03344cds cDNA sequence of peroxisome forming factor

E03344

Table 3.

X62325	14190	Null							TcRValphaT 48a2 mRNA for T cell receptor V- alpha J- alpha alpha	No Human		X62325cds RRTRT48A2 R.rattus TcRValphaT48a2 mRNA for T cell receptor V-alpha J-alpha
X62325	14191	Null							TcRValphaT 48a2 mRNA for T cell receptor V- alpha J- alpha alpha	No Human		X62325cds RRTRT48A2 R.rattus TcRValphaT48a2 mRNA for T cell receptor V-alpha J-alpha
X62325	14192	Null							R.rattus TcRValphaT 48a2 mRNA for T cell receptor V- alpha J- alpha alpha	No Human		X62325cds RRTRT48A2 R.rattus TcRValphaT48a2 mRNA for T cell receptor V-alpha J-alpha
X62325	14193	Null							R.rattus TcRValphaT 48a2 mRNA for T cell receptor V- alpha J- alpha alpha	No Human		X62325cds RRTRT48A2 R.rattus TcRValphaT48a2 mRNA for T cell receptor V-alpha J-alpha
X62660	14194	14195	CAB46530	14196	NP_000838	14197			Glutathione transferase subunit 8	56		X62660mRNA RRGTS8 R.rattus mRNA for glutathione transferase subunit 8
X62850	14198	14199	AAA40872		XP_003009				carboxypepti dase B.	78	M23953	X62850mRNA RNPBUS30 R.nonvegicus mRNA (pBUS30) with repetitive elements
X63410	14200	14201	CAA45007	14202	AAB23169	14203			Hydroxystero id sulfitransfer ase	59		X63410cds RRHYDSUL R.rattus mRNA for hydroxysteroid sulfitransferase

Table 3.

X63722	14204	JS0875	14205	X53051	14206	P19320	14207	76	Vascular cell adhesion molecule 1	X63722cds RNV/CAM1R R.norvegicus mRNA for vascular cell adhesion molecule-1
X65083	14208	P80289	14209	L05779	14210	P34913	14211	78	Cytosolic epoxide hydrolase	X65083cds RNCEHR R.norvegicus mRNA for cytosolic epoxide hydrolase
X65083	14212	P80299	14213	L05779	14214	P34913	14215	78	Cytosolic epoxide hydrolase	X65083cds RNCEHR Rattus norvegicus mRNA for cytosolic epoxide hydrolase
X66022	14216	S26731		U43843	14217	Q92782	14218	87	Neuro-d4 microtubule associated protein 1A	X66022mRNA#1 RNND4P R.norvegicus mRNA for neuro-D4 protein
X66840	14219	CAA47316	14220	XM_032360		XP_032360		71	superoxide dismutase	X66840cds RNMAP1AP R.norvegicus mRNA for microtubule associated protein 1A (partial)
X68041	14221	CAA48177	14222	NM_003102	14223	NP_003093	14224	84	Heat shock transcription factor 1	X68041cds RNSODIS R.norvegicus mRNA for epididymal secretory superoxide dismutase
									myosin-binding protein	rc_AI172097 EST218092 Rattus norvegicus cDNA, 3' end /clone=RMJUBU88 /clone_end=3' /gb=AI172097 /gi=3712137 /ug=Rn.20418 /len=570
X83094	14225	CAA58149	14226	NM_005526	14227	NP_005517	14228	83	Stat5b protein	AI172097
X90475	14228	Q63518	14230	NM_004533	14231	NP_004524	14232	80n	Rattus norvegicus mRNA for eHand protein	AI639086
X91988	14233	CAA63043	14234	XM_012642	14235	XP_012642	14236	94	Stat5b protein	X91988 R.norvegicus mRNA for Stat5b protein /cds=UNKNOWN /gb=X91988 /gi=1143541 /ug=Rn.11355 /len=2615
Y08140	14237	CAA68934	14238	NM_004821	14239	NP_004812	14240	78	Rattus norvegicus mRNA for eHand protein	Y08140 RNHLH336 Rattus norvegicus mRNA for eHand protein
Y09365	14241	CAA70542	14242	XM_003736	14243	XP_003736	14244	86	G-protein coupled receptor kinase 6	Y09365cds RRGPCRK6 R.rattus mRNA for G-protein coupled receptor kinase 6

Table 3.

Y08453	14245	CAA70802	14246	NIM_000727	14247	NP_000718	14248	91	Calcium channel gamma subunit	Y08453cds RNY08453 R.norvegicus mRNA for calcium channel gamma subunit
Y12178	14249	CAA72878	14250			Null		No Human	R.norvegicus mRNA for bilirubin translocase	Y12178 RNBIL178 R.norvegicus mRNA for bilirubin translocase
Y17285	14251	g2317735	14252	D14662	14253	P30041	14254	91	Rattus norvegicus mRNA for thiol-specific antioxidant protein (1-Cys peroxiredoxin)	Y17285cds RNO17285 Rattus norvegicus mRNA for thiol-specific antioxidant protein (1-Cys peroxiredoxin)
Y17285	14255	CAA76732	14256	NIM_004805	14257	NP_004896	14258	91	thiol-specific antioxidant protein	re_AA892041 EST195844 Rattus norvegicus cDNA, 3' end /clone=RKIAL12 /clone_end=3' /gb=AA892041 /gi=3018920 /ug=Rn.2880 /len=606
Z21935	14259	CAA78928	14260	XM_008808		XP_008806		94	Protein kinase mINK2	Z21935cds RNPROKINA Rattus norvegicus protein kinase mINK2
Z49748	14261			Null					m4 cholinergic muscarinic receptor	Z49748exon RNM4CMREC R.norvegicus gene for m4 cholinergic muscarinic receptor
AB012933	14262	O88813	14263	D10040	14264	JX0202	14265	62	Acyl-CoA synthetase 5	"Rattus norvegicus mRNA for acyl-CoA synthetase 5, complete cds"
AF009604	14266	O35180	14267	X98864	14268	Q99863	14269	86	SH3 domain protein 2 C1	"Rattus norvegicus SH3p13 mRNA, partial cds /cds=(0,875) /gb=AF009604 /gi=22833469 /ug=Rn.5609 /len=1216"



Table 3.

AF012347	14270	g2689629	14271	D83761	14272	g2251106	14273	95	Smad8 Putative pheromone receptor (Go- VN7) [Human extracellular calcium- sensing receptor -low hom]
AF016184	14274	g2367617	14275	U20760	14276	P41180	14277	33	"Rattus norvegicus putative pheromone receptor (Go-VN7) mRNA, complete cds /cds=(24,2417) /gb=AF016184 /g=2367616 /ug=Rn.10812 /len=3809"
AF029357	14278	g2570935	14279	AL022727	14280	g3757726		48	"AF029357cds Rattus norvegicus olfactory receptor-like protein gene, complete cds"
AF038591	14281	g2760920	14282	X85762	14283	g2584787	14284	95	"Rattus norvegicus cytoplasmic aminopeptidase P (APP) mRNA, complete cds /cds=(44,1915) /gb=AF038591 /gi=2760919 /ug=Rn.3473 /len=2381"
AF039212	14285	AAB94937	14286	AF297093	14287	AAG30417	14288	64	"AF039212mRNA Rattus norvegicus UDP-glucuronosyltransferase 1A7 (UGT1A7) gene, promoter and partial cds"
AF039218	14289	T14039	14290	AC002583	14291	O14578	14292	96	"Rattus norvegicus postsynaptic density protein (cltron) mRNA, complete cds /cds=(612,5468) /gb=AF039218 /g=2745839 /ug=Rn.10876 /len=5952"
AF053990	14293	I59362		U20760	14294	A56715	14295	43	"Rattus norvegicus tissue-type vomeronasal neurons putative pheromone receptor V2R2B mRNA, partial cds /cds=(0,992) /gb=AF053990 /g=2996023 /ug=Rn.9651 /len=719"

Table 3.

NM_021593	14296	NP_087604	14297	NM_003678	14298	NP_003670	14299	79	Kynurenine 3-hydroxylase Proteoglycan PG-M V3 isoform	AF056031	"Rattus norvegicus kynurenine 3-hydroxylase mRNA, complete cds"
AF072892	14300	S28764	14301	U16306	14302	P13611	14303	60			"Rattus norvegicus versican V3 isoform precursor, mRNA, complete cds"
NM_013149	14304	NP_037281	14305	NM_001621	14306	NP_001612	14307	67	Aryl hydrocarbon receptor	AF082126	"Rattus norvegicus aryl hydrocarbon receptor (AHR) mRNA, alternatively spliced longer insertion variant, complete cds"
D14988	14308	I52849	14309	X70222	14310	S28155	14311	63	Hydroxysteroid sulfotransferase		"RATHSS2 Rat mRNA for hydroxysteroid sulfotransferase subunit, complete cds"
D17349	14312	BAA04164		NM_000767	14313	NP_000758	14314	65	"Cytochrome P450, subfamily IIB (phenobarbital-inducible), polypeptide 6 (see 257 on this sheet)"		"D17349cds RATCYP6 Rat cytochrome P450 2B15 gene, exon 9"
D84418	14315	P52925	14316	X62534	14317	2001363A	14318	98	"High mobility group protein 2 (23, 45, 52 on d.s.)"		"Rat mRNA for chromosomal protein HMG2, complete cds /cds=(74,708) /gb=D84418 /gl=1304192 /ug=Rn.2874 /len=1072"
D88586	14319	P70709	14320	X15161	14321	P12724	14322	55	Rat mRNA for eosinophil cationic protein		"Rat mRNA for eosinophil cationic protein, complete cds /cds=(63,530) /gb=D88586 /gl=1668582 /ug=Rn.10826 /len=711"
NM_031016	14323	NP_112278	14324	AF385588	14325	AAK68113	14326	86	Muscarinic receptor m2	J03025	"Rat muscarinic cholinergic receptor mRNA, complete cds /cds=(451,1851) /gb=J03025 /gl=203481 /ug=Rn.10752 /len=2483"

Table 3.

J03577	14327	P17267	14328	M63154	14329	P27352	14330	79	Gastric intrinsic factor "Phospholipase C, gamma 1"	"Rat gastric intrinsic factor mRNA, complete cds /cds=(12,1277) /gb=J03577 /gi=204683 /ug=Rn.10954 /len=1466"
J03806	14331	A31317	14332	M34667	14333	P19174	14334	96		"Rat phospholipase C mRNA, complete cds /cds=(94,3966) /gb=J03806 /gi=206323 /ug=Rn.11243 /len=5106"
J05509	14335	P18125	14336	X56088	14337	JH0659	14338	82	Cytochrome P450 (cholesterol hydroxylase 7 alpha) (see 257 on this sheet)	"J05509CompleteSeq Rat cytochrome P450 cholesterol 7-alpha-hydroxylase (P450 VII) mRNA, complete cds /cds=UNKNOWN /gb=J05509 /gi=203204 /ug=Rn.10737 /len=3561"
K03041	14339	OWRT	14340	D00230	14341	P00480	14342	91	Ornithine carbamoyltra nsferase	K03041mRNA RATOTCB Rat (Sprague- Dawley) ornithine carbamoyltransferase mRNA
L02634	14343	AAA92110	14344	S42457	14345	AAB22778	14346	80	cGMP-gated rod photorecepto r channel related mRNA sequence	RATPHOTOA Rat cGMP-gated rod photoreceptor channel related mRNA sequence
L03294	14347	Q06000	14348	M15856	14349	LIHUL	14350	92	Lipoprotein lipase	"Rattus norvegicus lipoprotein lipase mRNA, complete cds /cds=(174,1598) /gb=L03294 /gi=205214 /ug=Rn.3834 /len=3817"
L07380	14351	NP_036982	14352	XM_030066		XP_030066		79	Growth hormone- releasing factor receptor (16 on d.s.)	RATGHRFRG Rattus rattus (clone pGR2) growth hormone-releasing factor receptor mRNA sequence
L13202	14353	AAA41319	14354	NM_012183	14355	NP_036315	14356	100	HNF-3/fork- head homolog-2 [Rattus norvegicus] Blink	"RATHFH2 Rattus norvegicus HNF-3/fork- head homolog-2 (HFH-2) mRNA, complete cds"

Table 3.

L14002	14357	Null	14358	AB011153	14360	g3043886				Polymeric immunoglobulin receptor AATTAA-containing 3'UTR mRNA sequence	L14002UTR#1 RATPIGRB Rattus norvegicus polymeric immunoglobulin receptor AATTAA-containing 3'UTR mRNA sequence
L14322	14358	P10687	14359	AB011153	14360	g3043886	91			Phospholipase C-beta1	"L14322exon RATPHOSPHO Rattus norvegicus phospholipase C-beta1 gene, complete exon"
L32601	14361	P51652	14362	D17793	14363	P42330	14364	71		20-alpha-hydroxysteroid dehydrogenase (20-alpha-HSD)	"RAT20AHYDE Rat 20 alpha-hydroxysteroid dehydrogenase mRNA, complete cds"
D86373	14365	BAA25372	14366	XNM_031118		XP_031118		85		acyl-coenzyme A:cholesterol acyltransferase (ACACT)	"L42283mRNA MUSACACT Mus musculus acyl-coenzyme A:cholesterol acyltransferase (ACACT) mRNA, complete cds"
L43592	14367	g1161230	14368	AF152498	14369	g5457045	14370	73		Protocadherin-3 (pcdh3)	"Rattus norvegicus protocadherin-3 (pcdh3) mRNA, complete cds /cds=(137,2530) /gb=L43592 /gi=1161228 /ug=Rn.10166 /len=3017"
M18530	14371	g204785	14372	S65921	14373	g425520	14374	70		"Anti-acetylcholine receptor antibody gene, kappa-chain, VJC region"	"M18530cds RATIGKAI Rat (R.sordidus) germline kappa-chain C-region gene, 3' end"

Table 3.

M18853	14375	F27579	M15565	14376	9338766	14377	58	Rat T-cell receptor active alpha-chain C-region mRNA, partial cds, clone TRA29 /cds=(0,796) /gb=M18853 /gi=207163 /ug=Rn.8948 /len=1110"
M21622	14376	P12840	14378	X06948	P12319	14381	48	"Rat high-affinity IgE receptor (Fc-epsilon-R-1) mRNA, complete cds, clones R8-2b and R3-3 /cds=(176,853) /gb=M21622 /gi=204109 /ug=Rn.9677 /len=1179"
M21842	14382	S20791	X04714	14383	g28780	14384	64	"Rat apolipoprotein B (apoB) mRNA, 3' end /cds=(0,212) /gb=M21842 /gi=202952 /ug=Rn.10711 /len=405"
M25157	14385	P07632	K00065	14387	DSHUCZ	14388	83	"M25157mRNA RATSODCZL Rat Cu, Zn superoxide dismutase mRNA, complete cds"
M33201	14389	g208459	K03475	14391	g180672	14392	71	"Rat pulmonary surfactant-associated glycoprotein A (SP-A) mRNA, complete cds /cds=(55,801) /gb=M33201 /gi=208460 /ug=Rn.11343 /len=1602"
M34134	14393	P18342	M19713	14395	P08493	14396	94	"Rat brain alpha-tropomyosin (TMBr-2) mRNA, complete cds /cds=(136,891) /gb=M34134 /gi=207356 /ug=Rn.1033 /len=1004"
M34384	14387	P21263	X65964	14399	P48681	14400	45	"Rat nestin mRNA, complete cds /cds=(127,5644) /gb=M34384 /gi=2056663 /ug=Rn.9701 /len=5948"
M35601	14401	P06399	NM_021871	14403	1FZA	14404	59	"Rat alpha-fibrinogen mRNA, 3' end /cds=(0,281) /gb=M35601 /gi=204139 /ug=Rn.5500 /len=511"

Table 3.

M57682	14405	P27732	14406	M83566	14407	A38198	14408	95	"Calcium channel, voltage-dependent, L type, alpha 1D subunit"
M64781	14409	AAA42068	14410			g1911480		65	Salivary proline-rich protein (RP4) gene
M64793	14411	AAA42064	14412			A37232		36	Rat salivary proline-rich protein (RP15) gene, complete cds /cgs=(34,868) /gb=M64793 /gi=206711 /ug=Rn.9842 /len=1572"
M77479	14413	P26435	14414	L21893	14415	Q14973	14416	78	"Solute carrier family 10 (sodium/bile acid cotransporter family), member 1"
M80570	14417	I59558	14418	M96670	14419	A48980	14420	93	"Solute carrier family 6 (neurotransmitter transporter, dopamine), member 3"
M88111	14421	P26573	14422	S80071	14423	Q88884	14424	97	"Rattus norvegicus high affinity L-proline transporter mRNA, complete cds" /cgs=(84,2069) /gb=M88111 /gi=205234 /ug=Rn.9663 /len=2722"
									"Rat brain calcium channel alpha-1 subunit mRNA, complete cds /cgs=(628,5466) /gb=M57682 /gi=206573 /ug=Rn.9828 /len=6978"
									"Rat salivary proline-rich protein (RP4) gene, complete cds /cgs=(34,842) /gb=M64781 /gi=206715 /ug=Rn.9844 /len=881"
									"Rat salivary proline-rich protein (RP15) gene, complete cds /cgs=(34,868) /gb=M64793 /gi=206711 /ug=Rn.9842 /len=1572"
									"Rattus norvegicus sodium/bile acid cotransporter mRNA, complete cds /cgs=(121,1209) /gb=M77479 /gi=206853 /ug=Rn.9913 /len=1663"
									"Rat dopamine transporter mRNA, complete cds /cgs=(62,1921) /gb=M80570 /gi=310087 /ug=Rn.10093 /len=3386"
									"Rattus norvegicus high affinity L-proline transporter mRNA, complete cds /cgs=(84,2069) /gb=M88111 /gi=205234 /ug=Rn.9663 /len=2722"

Table 3.

M89906	14425	AAA40918	14426	NM_021050	14427	NP_066388	14428	86	Cystic fibrosis transmembrane conductance regulator	"RATCFTR Rattus norvegicus cystic fibrosis transmembrane conductance regulator (CFTR) gene, partial cds"
AF056034	14429	g4003519	14430	XM_039665	14431	XP_039665	14432	79	F-actin binding protein b-Nexlin	"EST188920 Rattus norvegicus cDNA, 3' end /clone=RHEAA88 /clone_end=3' /gb=AA798423 /gi=2862378 /ug=Rn.6183 /len=625"
AA789464	14433	AB026908	14434	BAA81889	14435			90	SDHD gene for small subunit of cytochrome b of succinate dehydrogenase	"EST188961 Rattus norvegicus cDNA, 3' end /clone=RHEAB35 /clone_end=3' /gb=AA798464 /gi=2862419 /ug=Rn.3792 /len=662"
NM_010757	14436	NP_034887	14437	AF055376	14438	AAC27037	14439	53	Short form transcription factor C-MAF (C-maf) (48 on d.s.)	"EST189241 Rattus norvegicus cDNA, 3' end /clone=RHEAE74 /clone_end=3' /gb=AA798744 /gi=2862699 /ug=Rn.3818 /len=616"
AA798792	14440	P07882	14441	XM_005330		1717328A		78	Carboxyl ester lipase	"EST189289 Rattus norvegicus cDNA, 3' end /clone=RHEAF41 /clone_end=3' /gb=AA798782 /gi=2862747 /ug=Rn.7461 /len=615"
AA798983	14442			Null					EST(not recognised)	"EST189380 Rattus norvegicus cDNA, 3' end /clone=RHEAG50 /clone_end=3' /gb=AA798883 /gi=2862838 /ug=Rn.6252 /len=496"
AA800005	14443	Q9QZA8	14444	U14850	14445	P48509	14446	92	Platelet endothelial tetraspan antigen-3	"EST189502 Rattus norvegicus cDNA, 3' end /clone=RHEAI20 /clone_end=3' /gb=AA800005 /gi=2862860 /ug=Rn.1465 /len=828"
AA800210	14447			Null					EST(not recognised)	"EST189707 Rattus norvegicus cDNA, 3' end /clone=RHEAM47 /clone_end=3' /gb=AA800210 /gi=2863165 /ug=Rn.13244 /len=582"

Table 3.

AA800277	14448	Q00380	14449	X97074	14450	P53680	14451	43	"ESTs, Weakly similar to AP17 CLATHRIN COAT ASSEMBLY PROTEIN AP17 [R.norvegicus s]"	"EST189774 Rattus norvegicus cDNA, 3' end /clone=RHEAN32 /clone_end=3' /gb=AA800277 /gi=2863232 /ug=Rn.6307 /len=698"
AA818240	14452	P49791	14453	ZZ5535	14454	P49790	14455	82	Nuclear pore complex protein	"UI-R-A0-ah-h-10-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0- ah-h-10-Q-UI /clone_end=3' /gb=AA818240 /gi=2888120 /ug=Rn.1347 /len=603"
AA858570	14456			Null					EST(not recognised)	"UI-R-E0-bq-f-02-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0- bq-f-02-Q-UI /clone_end=3' /gb=AA858570 /gi=2948910 /ug=Rn.754 /len=520"
AA859916	14457			Null					EST(not recognised)	"UI-R-E0-og-b-10-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0- og-b-10-Q-UI /clone_end=3' /gb=AA859916 /gi=2949436 /ug=Rn.21405 /len=536"
AJ302650	14458	CAC16090	14459	XM_047360		XP_047360		38	Rattus norvegicus mRNA for RP59 protein	"UI-R-E0-ca-e-11-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0- ca-e-11-Q-UI /clone_end=3' /gb=AA859992 /gi=2949512 /ug=Rn.22633 /len=463"
AA866221	14460			Null					EST(not recognised)	"UI-R-A0-bg-e-06-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0- bg-e-06-Q-UI /clone_end=3' /gb=AA866221 /gi=2861667 /ug=Rn.3002 /len=146"
AA866280	14461			Null					EST(not recognised)	"UI-R-A0-ac-e-09-Q-UI.s3 Rattus norvegicus cDNA, 3' end /clone=UI-R-A0- ac-e-09-Q-UI /clone_end=3' /gb=AA866280 /gi=2861751 /ug=Rn.3045 /len=341"



Table 3.

AA866472	14462	2008108A	M86667	14463	S40510	14464	97	Nucleosome assembly protein 1-like 1	"UI-R-E0-br-g-09-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-br-g-09-Q-UI /clone_end=3' /gb=AA866472 /gi=2861833 /ug=Rn.3121 /len=522"
AA874830	14465	KXRTS	L13720	14466	B48089	14467	75	"ESTs, Weakly similar to VITAMIN K-DEPENDENT PROTEIN S PRECURSOR [R.norvegicus]"	"UI-R-E0-cg-f-04-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cg-f-04-Q-UI /clone_end=3' /gb=AA874830 /gi=2878778 /ug=Rn.3138 /len=396"
AA874857	14468	AC004854	14469	14471	Null	14473	89	EST	"UI-R-E0-cg-h-12-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cg-h-12-Q-UI /clone_end=3' /gb=AA874857 /gi=2879805 /ug=Rn.3147 /len=454"
X56328	14470	CAA39767	14471	14472	NP_005321	14473	76	Epsilon 3 globin gene	"UI-R-E0-cu-o-08-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cu-o-08-Q-UI /clone_end=3' /gb=AA875199 /gi=2880147 /ug=Rn.2827 /len=140"
AA875407	14474		Null					EST(not recognised)	"UI-R-E0-cs-a-11-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-E0-cs-a-11-Q-UI /clone_end=3' /gb=AA875407 /gi=2880355 /ug=Rn.2808 /len=284"
AA891068	14475	g205986	S75037	14476	g802150		90	Peptidylglycine alpha-amidating monooxygenase	"EST194871 Rattus norvegicus cDNA, 3' end /clone=RHEAO60 /clone_end=3' /gb=AA891068 /gi=3017947 /ug=Rn.1121 /len=412"
AA891108	14477		Null					EST(not recognised)	"EST194911 Rattus norvegicus cDNA, 3' end /clone=RHEAP21 /clone_end=3' /gb=AA891108 /gi=3017987 /ug=Rn.22691 /len=513"

Table 3.

AA891834	14478	Null	Null				EST(not recognised) "Homo sapiens, clone RP11- 2812, complete sequence"		"EST195637 Rattus norvegicus cDNA, 3' end /clone=RKIAH39 /clone_end=3' /gb=AA891834 /gi=3018713 /ug=Rn.17094 /len=669"
AA891922	14479	14480	AC021396			88			"EST195725 Rattus norvegicus cDNA, 3' end /clone=RKIAI64 /clone_end=3' /gb=AA891922 /gi=3018801 /ug=Rn.3680 /len=592"
AY027527	14481	14482	AAK14799	14483	NP_058627	14484	NADPH oxidase 4	AA892258	"EST196061 Rattus norvegicus cDNA, 3' end /clone=RKIAO28 /clone_end=3' /gb=AA892258 /gi=3018137 /ug=Rn.14744 /len=556"
AA892551	14485	Null	Null				EST		"EST196354 Rattus norvegicus cDNA, 3' end /clone=RKIAS78 /clone_end=3' /gb=AA892551 /gi=3019430 /ug=Rn.14765 /len=112"
AA892762	14486	T12455				88	"ESTs, Moderately similar to T12455 hypothetical protein DKFZp564H 2023.1 [H.sapiens]"		"EST196565 Rattus norvegicus cDNA, 3' end /clone=RKIAW93 /clone_end=3' /gb=AA892762 /gi=3018641 /ug=Rn.24893 /len=396"
AA892881	14487	Null	Null				EST(not recognised)		"EST196684 Rattus norvegicus cDNA, 3' end /clone=RKJAY45 /clone_end=3' /gb=AA892881 /gi=3019760 /ug=Rn.14800 /len=545"
AA893043	14488	Null	Null				EST(not recognised)		"EST196846 Rattus norvegicus cDNA, 3' end /clone=RKIBB45 /clone_end=3' /gb=AA893043 /gi=3019822 /ug=Rn.24959 /len=465"
AA893191	14489	Null	Null				EST(not recognised)		"EST196994 Rattus norvegicus cDNA, 3' end /clone=RKIBD35 /clone_end=3' /gb=AA893191 /gi=3020070 /ug=Rn.3301 /len=654"

Table 3.

AA893314	14490	T12477	14492	14493	A28321	14494	56	"ESTs, Moderately similar to T12477 hypothetical protein DKFZp564L0 862.1 [H.sapiens]"	"EST197117 Rattus norvegicus cDNA, 3' end /clone=RKIBE92 /clone_end=3' /gb=AA893314 /gi=3020193 /ug=Rn.22749 /len=255"
AA893495	14491	P31211	14492	14493	A28321	14494	56	"ESTs, Highly similar to CORTICOST EROID- BINDING GLOBULIN PRECURSO R [R.norvegicu s]"	"EST197298 Rattus norvegicus cDNA, 3' end /clone=RLIAD19 /clone_end=3' /gb=AA893495 /gi=3020374 /ug=Rn.2374 /len=656"
AA893592	14495	Q62703	14496	14497	Q15283	14498	94	"ESTs, Weakly similar to RETICULOC ALBIN 2 PRECURSO R [R.norvegicu s]"	"EST197395 Rattus norvegicus cDNA, 3' end /clone=RPLAC34 /clone_end=3' /gb=AA893592 /gi=3020471 /ug=Rn.3275 /len=592"

Table 3.

AA893671	14499	Q63244	14500	U02310	14501	1923399A	14502	93	"ESTs, Weakly similar to HEPATOCTE NUCLEAR FACTOR 3 FORHEAD HOMOLOG 1 [R.norvegicus]	"EST197474 Rattus norvegicus cDNA, 3' end /clone=RPLA127 /clone_end=3' /gb=AA893671 /gi=3020550 /ug=Rn.22764 /len=399"
AA893825	14503			Null					EST(not recognised) Peroxisomal Integral membrane protein PMP34	"EST197828 Rattus norvegicus cDNA, 3' end /clone=RPLAM08 /clone_end=3' /gb=AA893825 /gi=3020704 /ug=Rn.8976 /len=402"
AJ006341	14504	CAA06984	14505	NIM_006358	14506	NP_006349	14507	83	EST (not recognised)	"EST197893 Rattus norvegicus cDNA, 3' end /clone=RSPAQ84 /clone_end=3' /gb=AA894090 /gi=3020869 /ug=Rn.3737 /len=556"
AA894337	14508			Null						"EST198140 Rattus norvegicus cDNA, 3' end /clone=RSPA90 /clone_end=3' /gb=AA894337 /gi=3021216 /ug=Rn.7739 /len=397"
NIM_012520	14509	NP_036652	14510	NIM_001752	14511	NP_001743	14512	88	Catalase	"UI-R-A1-eq-h-04-0-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-A1- eq-h-04-0-UI /clone_end=3' /gb=AA8926149 /gi=3073285 /ug=Rn.3001 /len=449"
NIM_031510	14513	NP_113698	14514	XM_028868	14515	XP_028869	14516	93	"Isocitrate dehydrogenase 1 (NADP+), soluble (IDH1)"	"EST199524 Rattus norvegicus cDNA, 3' end /clone=REMAA43 /clone_end=3' /gb=AA944025 /gi=3103941 /ug=Rn.3561 /len=537"
NIM_022537	14517	NP_071982	14518	X54393	14519	CAA38264	14520	30	Prolactin-like protein D	"EST202041 Rattus norvegicus cDNA, 3' end /clone=RSPAZ69 /clone_end=3' /gb=AA946542 /gi=3108458 /ug=Rn.1928 /len=637"

Table 3.

NM_024147	14521	NP_077081	14522	NM_016337	14523	NP_057421	14524	75	RNB6	AA997968	"UI-R-CO-hu-b-03-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-CO-hu-b-03-Q-UI /clone_end=3' /gb=AA997968 /ug=Rn.9790 /len=529"
AI008741	14525	O35776	14526	U54804	14527	Q82819	14528	98	Hyaluronan synthase 2		"EST203192 Rattus norvegicus cDNA, 3' end /clone=REMBC59 /clone_end=3' /gb=AI008741 /ug=Rn.10781 /len=501"
NM_022713	14529	NP_073204	14530	NM_003241	14531	NP_003232	14532	52	Dorsal protein 1	AI013795	"EST208470 Rattus norvegicus cDNA, 3' end /clone=RSPBS90 /clone_end=3' /gb=AI013795 /ug=Rn.9984 /len=246"
AF057025	14533	P35859	14534	AF177765	14535	AAF05316	14536	62	Toll-like receptor 4	AI030987	"UI-R-CO-je-d-11-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-CO-je-d-11-Q-UI /clone_end=3' /gb=AI030987 /ug=Rn.14534 /len=316"
AI044423	14537	P41276	14538	L28997	14539	P40616	14540	98	ADP-ribosylation factor-like 1		"UI-R-C1-jw-e-11-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C1-jw-e-11-Q-UI /clone_end=3' /gb=AI044423 /ug=Rn.11401 /len=387"
AI071511	14541	T41751		AB011399	14542	P55196	14543	91	Afadin (31 on d.s.)		"UI-R-C2-nc-h-01-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C2-nc-h-01-Q-UI /clone_end=3' /gb=AI071511 /ug=Rn.58 /len=427"
AI072435	14544	A23677	14545	J03827	14546	I39382	14547	97	Y box protein 1		"UI-R-C2-nc-o-03-Q-UI.s1 Rattus norvegicus cDNA, 3' end /clone=UI-R-C2-nc-o-03-Q-UI /clone_end=3' /gb=AI072435 /ug=Rn.3181 /len=488"
AI104389	14548	1TOH	14549	M20912	14550	I55282		88	Tyrosine hydroxylase		"EST213678 Rattus norvegicus cDNA, 3' end /clone=RHECC67 /clone_end=3' /gb=AI104389 /gi=3708757 /ug=Rn.11082 /len=488"
AI175900	14551	P41156	14552	J04101	14553	TVHUET	14554	98	transcription factor ets-1		"EST218472 Rattus norvegicus cDNA, 3' end /clone=ROVBG83 /clone_end=3' /gb=AI175900 /ug=Rn.7142 /len=458"
AI178012	14555	P33568	14556	NM_000321	14557	NP_000312	14558	90	Retinoblastoma 1 (including osteosarcoma)		"EST221669 Rattus norvegicus cDNA, 3' end /clone=RPLCJ92 /clone_end=3' /gb=AI178012 /ug=Rn.3485 /len=472"

Table 3.

AI232256	14559	P04166	14560	AB009282	14561	O43169	14562	73	"Cytochrome b5, outer mitochondrial membrane isoform"	"EST228944 Rattus norvegicus cDNA, 3' end /clone=RK1BZ24 /clone_end=3' /gb=AI232256 /ug=Rn.10249 /len=566"
AI638962	14563			Null					EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone rx01189 3', mRNA sequence [Rattus norvegicus]"
AI638987	14564			Null					EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone rx00568 3', mRNA sequence [Rattus norvegicus]"
AI638988	14565			Null					EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone rx00508 3', mRNA sequence [Rattus norvegicus]"
AI639074	14566			Null					EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone rx01925 3', mRNA sequence [Rattus norvegicus]"
AI639112	14567			Null					EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone rx04824 3', mRNA sequence [Rattus norvegicus]"
AI639195	14568			Null					EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone rx04881 3', mRNA sequence [Rattus norvegicus]"
AI639200	14569			Null					EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone rx03240 3', mRNA sequence [Rattus norvegicus]"
AI639217	14570			Null					EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone rx01420 3', mRNA sequence [Rattus norvegicus]"
AI639219	14571			Null					EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone rx04760 3', mRNA sequence [Rattus norvegicus]"
AI639225	14572			Null					EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone rx05060 3', mRNA sequence [Rattus norvegicus]"

Table 3.

AI639247	14573	AY009106	14574	AAG49397	14575				80	"EST, Moderately similar to T17296 hypothetical protein DKFZp43410.92.1 [H.sepiens]"	"Rat mixed-tissue library Rattus norvegicus cDNA clone r03938 3', mRNA sequence [Rattus norvegicus]"
AI639315	14576			Null						EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone r04457 3', mRNA sequence [Rattus norvegicus]"
AI639362	14577			Null						EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone r03216 3', mRNA sequence [Rattus norvegicus]"
AI639401	14578	L09190	14579	AA65582	14580				81	Trichohyalin	"Rat mixed-tissue library Rattus norvegicus cDNA clone r00854 3', mRNA sequence [Rattus norvegicus]"
AI639423	14581			Null						EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone r03133 3', mRNA sequence [Rattus norvegicus]"
AI639453	14582			Null						EST(not recognised)	"Rat mixed-tissue library Rattus norvegicus cDNA clone r00152 3', mRNA sequence [Rattus norvegicus]"
NM_031669	14583	NP_113857	14584	No Human		Null				Uterine-specific proline-rich acidic protein	"Rat mixed-tissue library Rattus norvegicus cDNA clone r02618 3', mRNA sequence [Rattus norvegicus]"
NM_019349	14585	NP_062222	14586	AF273048	14587	AAG34908	14588		67	Serine/threonine kinase 2	"EST105855 Rattus norvegicus cDNA, 3' end /clone=RPCAT82 /clone_end=3' /gb=H31623 /gl=977040 /ug=Rn.14576 /len=404"
H31753	14589			Null						PC-12 cells (EST)	"EST108113 Rattus norvegicus cDNA, 3' end /clone=RPCAX41 /clone_end=3' /gb=H31753 /gl=977170 /ug=Rn.14591 /len=277"

Table 3.

H33448	14590	Null						EST(not recognised) "ESTs, Weakly similar to D-BETA-HYDROXYBUTYRATE DEHYDROGENASE PRECURSOR [R.norvegicus]"	"EST109468 Rattus norvegicus cDNA, 3' end /clone=RPNAR85 /clone_end=3' /gb=H33448 /gi=978865 /ug=Rn.14640 /len=430"
H33750	14591	A42345	14592	AF151851	14593	AAD34088	14594	79	"EST110056 Rattus norvegicus cDNA, 3' end /clone=RPNAZ31 /clone_end=3' /gb=H33750 /gi=979167 /ug=Rn.8514 /len=468"
S46785	14595	P35859	14596	M86826	14597	P35858	14598	77	"Insulin-like growth factor binding protein complex acid-labile subunit [rats, liver, mRNA, 2190 nt]"
S58528	14599	AAB26277	14600	NIM_002210	14601	NP_002201	14602	81	"Integrin alpha v subunit [rats, NRK cells, mRNA Partial, 749 nt]"
S65091	14603	XM_002992		XP_002992				87	"cyclic AMP-regulated phosphoprotein [rats, mRNA, 1030 nt]"
S78489	14604	P52844	14605	U08098	14606	P49888	14607	71	"estrogen sulfotransferase isoform 3 [rats, male, liver, mRNA, 1000 nt]"
S78744	14608	AAC60704	14609	Y00692	14610	AAA60181	14611	80	"protein S-activated protein C cofactor [rats, liver, mRNA, 3315 nt]"
S79676	14612	AAB35431	14613	XM_040782		XP_040782		70	"Interleukin-1 beta-converting enzyme [rats, mRNA Partial, 458 nt]"



Table 3.

S79711	14614	AA21288	14816	NIM_000073	14616	NP_000064	14817	64	CD3 gamma-chain	"CD3 gamma-chain [rat, mRNA, 620 nt]"
U07201	14618	P49088	14819	AC005326	14620	g3341715		93	Asparagine synthetase	"Rattus norvegicus asparagine synthetase mRNA, secondary transcript, complete cds /cds=(123,1808) /gb=U07201 /gi=460630 /ug=Rn.11172 /len=2226"
U07683	14621	A48801	14822	U30930	14623	Q16880	14824	93	UDP-glucuronosyltransferase 8	"Rattus norvegicus UDP-galactose-ceramida galactosyltransferase mRNA, complete cds /cds=(70,1695) /gb=U07683 /gi=464025 /ug=Rn.9744 /len=4185"
U08260	14626	I78557	14826	L76224	14627	Q14957	14828	57	"Glutamate receptor, ionotropic, N-methyl D-aspartate 2D"	"Rattus norvegicus Sprague-Dawley N-methyl-D-aspartate receptor NMDAR2D subunit mRNA, complete cds /cds=(65,4056) /gb=U08260 /gi=475551 /ug=Rn.10063 /len=4957"
NM_022854	14628	NP_074045	14630	X62167	14631	P02689	14632	59	Testis lipid binding protein	"Rattus norvegicus 15 kDa perforatoral protein PERF 15 mRNA, partial cds /cds=(33,431) /gb=U09022 /gi=538268 /ug=Rn.10078 /len=563"
U10096	14633	P55016	14634	U58130	14635	Q13621	14636	93	"Solute carrier family 12, member 1 (bumetanide-sensitive sodium-potassium)-chloride cotransporter"	"Rattus norvegicus Sprague-Dawley bumetanide-sensitive sodium-(potassium)-chloride cotransporter mRNA, complete cds /cds=(215,3502) /gb=U10086 /gi=507772 /ug=Rn.14799 /len=4595"
U10699	14637	JC1465	14638	M31210	14639	P21453	14640	50	G-protein coupled receptor 13	"Rattus norvegicus G-protein coupled receptor pH218 mRNA, complete cds /cds=(147,1205) /gb=U10699 /gi=505647 /ug=Rn.2491 /len=2754"
U30381	14641	Q62806	14642	AF038019	14643	Q6UQR1	14644	97	Zinc finger protein 148	"Rattus norvegicus zinc finger binding protein mRNA, complete cds /cds=(387,2771) /gb=U30381 /gi=1373020 /ug=Rn.11383 /len=2772"

U09022

Table 3.

U39206	14645	P51869	14646	AF054821	14647	g2997737	14648	78	P450 4F4 (CYP4F4) (see 257 on this sheet)
U57062	14649	g1470062	14650	J03189	14651	g338011	14652	59	Natural killer cell protease 4 (RNKP-4) (47 on d.s.)
U67138	14653	g1864089	14654	AF009204	14655	g2454510		87	PSD- 95/SAP90- associated protein-2
U69278	14656	O08680	14657	M83941	14658	A38224	14659	95	Eph receptor A3
U70825	14660	P97608	14661	AL098750	14662	g5418885		93	5-oxo-L- prolinase myeloma
U75358	14663	AAB53364	14664	XM_001880		XP_001880		85	kinase (PAK- 2)
U87627	14665	Q63344	14666	U81800	14667	O15427	14668	88	Monocarboxy- late transporter
U89744	14669	g1890275	14670	X63564	14671	P24928	14672	30	Rat putative cell surface antigen
U90215	14673	AAB49889	14674	NIM_005688	14675	NP_005659	14676	97	Polysialyltran- sferase (51 on d.s.)
X52082	14677	P17982	14678	S74683	14679	P52961	14680	42	RT6.2

"Rattus norvegicus cytochrome P450 4F4 (CYP4F4) mRNA, complete cds /cds=(140,1708) /gb=U39206 /gi=1148435 /ug=Rn.10170 /len=2100"

"Rattus norvegicus natural killer cell protease 4 (RNKP-4) mRNA, complete cds /cds=(9,755) /gb=U57062 /gi=1470061 /ug=Rn.10533 /len=868"

"Rattus norvegicus PSD-95/SAP90-associated protein-2 mRNA, complete cds /cds=(490,3432) /gb=U67138 /gi=1864088 /ug=Rn.10705 /len=3718"

"Rattus norvegicus eph-related receptor tyrosine Kinase homolog (Rek4) mRNA, complete cds /cds=(34,2988) /gb=U69278 /gi=1943913 /ug=Rn.10713 /len=3077"

"Rattus norvegicus 5-oxo-L-prolinase mRNA, complete cds /cds=(105,3971) /gb=U70825 /gi=1732084 /ug=Rn.3066 /len=4003"

"RNU75358 Rattus norvegicus myeloma protein kinase (PAK-2) mRNA, partial cds"

"Rattus norvegicus putative monocarboxylate transporter (MCT3) mRNA, complete cds /cds=(89,1504) /gb=U87627 /gi=2463650 /ug=Rn.10826 /len=2118"

"Rattus norvegicus putative cell surface antigen mRNA, complete cds /cds=(16,1859) /gb=U89744 /gi=1890274 /ug=Rn.10719 /len=2636"

"RNU90215 Rattus norvegicus polysialyltransferase mRNA, partial cds" X52082cds RNRT61 Rat mRNA for T-cell alloantigen RT6.1

Table 3.

X52952	14891	P00539	14682	J00119	14683	TVHUMS	14684	72	Moloney murine sarcoma viral (v-mos) oncogene homolog	"Rat mRNA for c-mos /cds=(846,1865) /gb=X52952 /gl=55965 /ug=Rn.10341 /len=3220"
X63446	14685	A32827	14686	M16961	14687	WOHU	14688	63	Alpha 2 HS-glycoprotein alpha 2 (fetuin)	"Rattus norvegicus mRNA for fetuin /cds=(31,1089) /gb=X63446 /gl=56139 /ug=Rn.3880 /len=1456"
X66842	14689	P30994	14690	X77307	14691	P41595	14692	81	5-hydroxytryptamine (serotonin) receptor 2B	"Rattus norvegicus SRL mRNA for stomach fundus serotonin receptor /cds=(226,1665) /gb=X66842 /gl=57304 /ug=Rn.10425 /len=2003"
X74549	14693	S41066	14694	X03498	14695	P05546	14696	85	Leuserpin-2	"Rattus norvegicus mRNA (rs2var1) for leuserpin-2 /cds=(119,1558) /gb=X74549 /gl=433812 /ug=Rn.10553 /len=2082"
X77209	14697	P55063	14698	AF134726	14699	g4528894	14700	94	Hsp70-3 gene (7 on d.s.)	"Rattus norvegicus Hsp70-3 gene /cds=(13,1938) /gb=X77209 /gl=1814002 /ug=Rn.22532 /len=2546"
X89701	14700	CAA61848	14701	XM_036497	14702	XP_036497	14703	71	TPCR13 protein	X89701cds RNTPCR13P Rattus norvegicus mRNA for TPCR13 protein
NM_021741	14704	NP_068509	14705	AK022705	14706	BAB14190	14707	67	IP63 protein	X89330cds RNJAP27 Rattus norvegicus mRNA for IP63 protein
Y17295	14708	g2317735	14709	D14662	14710	P30041	14711	91	Rattus norvegicus mRNA for thiol-specific antioxidant protein (1-Cys peroxiredoxin)	Y17295cds RNO17295 Rattus norvegicus mRNA for thiol-specific antioxidant protein (1-Cys peroxiredoxin)

Table 3.

NM_017183	14712	NP_058889	14713	NM_016228	14714	NP_057312	14715	Kynurenine aminotransfe rase II	Z50144	"Rattus norvegicus mRNA for kynurenine/alpha-aminoadipate aminotransferase /cds=(112,1389) /gb=Z50144 /gi=1050751 /ug=Rn.11133 /len=1807"
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Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

Rat Gene Accession No.	Rat Protein Access. No.	Human Protein Access. No.	Human Gene Access. No.	% homolog	Identity	Former Identifier	Naïve Intensity	CFA Intensity	Affymetrix Ratio	Ratio CFA/Naïve
AA892799					Mus musculus 18 days embryo cDNA, RIKEN		6557.7	400707.1	53.8	61.1048
Z46882	CAA86981	NP_001377	NM_001386	96	TOAD-64		134.4	8061.4	37.8	59.9807
M73701	AAA42149	NP_003273	NM_003282	92	troponin I.		20	2184.1	18.9	109.205
D38222	g1054835	Q16849	L18983	88	Tyrosine phosphatase-like protein LA-2a		20	2179.1	14.6	108.955
X78593	CAA55329	AAB60403	U36310	89	Glycerol-3-phosphate dehydrogenase	U33880	255.5	4118	12.9	16.1096
NM_022245	NP_071581	XP_048473	XM_048473	88	cytochrome b5 (Cytb5)	AA817685	20	3085.3	11.9	153.265
X16623	CAA34620	XP_003704	XM_003704	80	Neuraxin		20	2161.1	10.9	108.055
X78848	CAA55405	NP_000838	NM_000847	75	glutathione S-transferase Yc1 subunit	S72505	905.7	4082.7	10.3	4.50778
M11794	AAA41640		No Human	74	metallothionein	AI176456	5.1	1769.5	9.9	346.861
D28966	BAA06091	NP_000951	NM_000860	85	prostaglandin synthase		20	1475.1	8.9	73.755
X63594	CAA45138	NP_065390	NM_020529	93	NF-KAPPA B INHIBITOR ALPHA		20	771.4	8.5	38.57
NM_012949	NP_037081	XP_008524	XM_008524		muscle specific enolase	AA851223	20	994.7	8.4	49.735
H31118					Mus musculus adult lung cDNA, RIKEN		211.7	1729.9	8.2	8.17147
U70372	AAC53031		no human		PAM COOH-terminal Interactor protein 2		733.9	1573.5	7.8	2.14403
L18931	AAA16532	NP_006740	NM_006749	81	amphotropic murine retrovirus receptor		20	1400.4	7.6	70.02
X53087	CAA37256	NP_000580	NM_000589	43	Interleukin 4		20	1643.6	7.6	82.18
X95399					M31 protein, exon 9.	AI009141	20	1524	7.1	76.2
D32209	BAA06908	NP_006296	NM_006305	81	leucine-rich acidic nuclear protein		20	1198.8	6.6	59.94
X53565	CAA37637	AAC39542	AF027516	44	trans-Golgi network integral membrane protein TGN38		20	1176	6.1	58.8
L24897	AAA72046	XP_052590	XM_052590	86	myosin heavy chain		3814.4	22836.6	6	6.01368
X13905	CAA32105	NP_004152	NM_004161	91	rab1B protein		135.1	1101	5.9	8.14952
AB017912	BAA33453	NP_005892	NM_005901	89	Smad2 protein		20	788.7	5.8	39.435
J03179	AAA41083	NP_001343	NM_001352	68	D-binding protein		20	791.7	5.7	39.585
L15079	AAA02937	NP_061337	NM_018849	69	P-glycoprotein		20	1545.9	5.5	77.295
AA800908					EST(not recognised)		20	894.6	5.3	44.73

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

K00986	AAA41028	NP_000758	NM_000767	72	cytochrome p-450e	173.1	1361.1	5.3	7.88308
M16407	AAA40661	NP_000731	NM_000740	84	muscarinic acetylcholine receptor m3	173.9	1031.8	5.3	5.93329
U12514	AAA20669	XP_037643	XM_037643	97	MSX-2	20	1075.7	5.2	53.785
Y17326	CAB56823	NP_006684	NM_006693	98	CDK106	8856.9	44931.5	5	5.07305
M11710	AAB59717	XP_040882	XM_040882	94	carbamyl phosphate synthetase	25.2	1081.9	5	43.3294
D29960	BAA06227	NP_001876	NM_001885	48	alphaB crystallin-related protein	201.4	922.3	4.6	4.57944
D17310	BAA04132	BAA98542	AB045829	69	Steroid 3-alpha-dehydrogenase	407.1	1301.3	4.6	3.19851
D38062	BAA07258	AAB81536	U89507	67	UDP Glucuronosyltransferase	20	706.2	4.6	35.31
D14989	BAA03634	AAB23168	S43859	58	hydroxysteroid sulfotransferase	70.1	761.9	4.5	10.8688
M57276	AAA41775	NP_000551	NM_000560	71	leukocyte antigen MRC-OX44	20	678.5	4.5	33.875
AI639181	AAC52788	NP_065098	NM_020365		EST(not recognised)	603.2	2847.6	4.4	4.38926
U38253					Rattus norvegicus initiation factor eIF-2B gamma subunit (eIF-2B gamma)				
AA891571				87	mRNA, complete cds	731.2	4150.8	4.4	5.6767
AF062203	AAC15252	NP_004961	NM_004970		Mus musculus ES cells cDNA, RIKEN	20	805.5	4.3	40.275
D28498	BAA05857	NP_002010	NM_002019	68	insulin-like growth factor binding protein complex acid-labile subunit	283.9	1222.5	4.3	4.30609
AA799469				77	Flt-1 tyrosine kinase receptor	208.6	897.6	4.3	4.30287
M15402	AAA41398	AAH05332	BC005332		EST(not recognised)	20	753.8	4.2	37.69
AA799964				68	Immunoglobulin kappa-chain VJ precursor	20	786.9	4.2	39.345
AA875010	XP_005342	XP_005342	XM_005342		Mus musculus 18 days embryo cDNA, RIKEN	261.3	1062.2	4.1	4.06506
AF022774	AAB95448	NP_008918	NM_006987	89n	similar to GTPase Rab14 (Homo Sapiens)	195.3	955.3	4.1	4.89145
M98223	AAA40991	NP_005164	NM_005173	75	rabphilin-3a related protein	20	844	4.1	42.2
AF091568	AAC64589	NP_036492	NM_012360	72	calcium transporting ATPase	2466.7	10057.9	4.1	4.07747
D12769	BAA02236	NP_001197	NM_001206	74	isolate HTF-SP1 olfactory receptor	47	989.2	4	21.0468
H33448				91	BTE binding protein	851.1	4002.4	4	4.20818
L19998	AAA41644	I57945	L19999		EST(not recognised)	166.7	757.6	4	4.54469
X74549	S41066	P05546	X03498	74	Minoxidil sulfotransferase	20	715.7	4	35.785
AA656524				85	Leuserlin-2	142.9	966.2	4	6.76137
AA853357	CAAT71076		no human		EST(not recognised)	93.9	808.3	3.9	8.58679
Y09945					putative integral membrane transport protein	181.6	763.4	3.9	4.20374
AA875639					EST(not recognised)	37.1	808.7	3.9	21.8248
						199.4	756	3.8	3.78137



**Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation**

X59736	CAA42414	XP_011328	XM_011328	95	sarcomeric mitochondrial creatine kinase	451.9	1318.7	3.4	2.91812
AF050663					Activity and neurotransmitter-induced early gene 11 (anla-11)				
L29281	S50216	A39650	M35663	62	Protein kinase, interferon-inducible double stranded RNA dependent	448.7	1468.7	3.3	3.26878
X15734	P13444	Q00266	D49357		S-ADENOSYLMETHIONINE SYNTHETASE ALPHA AND BETA FORMS	137.8	596.3	3.3	4.32729
X55812	CAA39332	NP_001831	NIM_001840	95	Cannabinoid receptor 1	188.5	744.1	3.3	3.92665
X98663	CAA65444	NP_003920	NIM_003929	93	ras-related GTPase Rab29	35.2	683.2	3.3	19.4091
AA893237					Mus musculus mRNA, complete cds, clone:2-72	247.4	780.9	3.2	3.15643
AA945583	O70351	Q89714	NIM_004493		Hydroxacyl-Coenzyme A dehydrogenase, type II	1382.9	5432.9	3.2	3.92863
AB001982	BAA21777	XP_003189	XM_003189	88	growth hormone secretagogue receptor type 1a	311.3	993.4	3.2	3.19113
AF000899	AAC82319	XP_037529	XM_037529	90	p58/p45 mRNA, alternatively spliced form	202	735.4	3.2	3.84059
AF048828	AAD02476	MMHUP3	L08132	83n	Voltage-dependent anion channel 1	497.6	1616.1	3.2	3.24779
AI639143				93	EST(not recognised)	1207.1	3877.2	3.2	3.212
H31914	P13383	P19338	M60858	84	Nucleolin	20	500.9	3.2	25.045
L00088	AAA98533	XP_030823	XM_030823	85	myosin light chain	194.3	620.8	3.2	3.19506
L23863		XP_012027	XM_012027	88n	Rat Skn1 mRNA	3003.4	9703.4	3.2	3.23081
M10140	AAA40935	XP_030967	XM_030967		skeletal muscle creatine kinase composite	861.8	832.6	3.2	0.96612
AA799637				89	Mus musculus adult male tongue cDNA, RIKEN	11220.6	36189.2	3.2	3.22525
AA894282					EST(not recognised)	80.3	867.1	3.1	10.7883
AB018104	BAA35123	NP_002534	NM_002543		lectin-like oxidized low-density lipoprotein receptor	352.5	1086.9	3.1	3.0834
AI045858		XP_027074	XM_027074	59	ESTs, Weakly similar to T14794	4.8	578.2	3.1	120.458
				87n	hypothetical protein DKFZp586P1522.1 [H.sapiens]				
AI639304					EST(not recognised)	228	819.5	3.1	3.58991
AI639490		XP_031423	XM_031423		Homo sapiens PHD zinc finger transcription factor (PF1)	549.1	3388.6	3.1	6.17119
AF003598	AAB81241	XP_029723	XM_029723	95n	beta-integrin	144.9	554	3.1	3.82333
X02412	CAA26259	CAA27243	X03541	88n	striated muscle alpha-tropomyosin	33.7	553.5	3.1	16.4243
				66		6631.9	20853.8	3.1	3.14448



Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

AA859821	AAC08415	NP_001782	no human	100	28S ribosomal RNA	AI227887	15060	44588.8	3	2.96081
AF053988	NP_033991		NM_001781		putative pheromone receptor V2R1-1		127.1	681.8	3	5.36428
NM_009861					cell division cycle 42 homolog		281	852.8	3	3.03488
AI639324					Homo sapiens clone SP329 unknown mRNA					
D45920	BAA08351	NP_006217	NM_006226	88	130kDa-Ins(1,4,5)P3 binding protein		470.9	911.7	3	1.93608
M58495	AAA41889	NP_000884	NM_000903	82	R.norvegicus NAD(P)H: quinone reductase		117.9	540.5	3	4.58439
U50355	AAC99552	NP_066280	NM_021010	42	neutrophil defensin 4		34.3	566.1	3	16.5044
AA799687					EST(not recognised)		811.3	2406	3	2.96561
AA891634					EST(not recognised)		166.7	623.8	2.9	3.74205
X80130	CAA56429	NP_005150	NM_005159	100	alpha-actin cardiac	AI104567	184.8	514.3	2.9	2.78301
M80801	AAA42087	XP_035702	XM_035702	83	zinc finger protein (RP8)	AI178462	375.3	1712.2	2.9	4.56222
U80818	AAB39192	NP_008867	NM_007036	74	pineal specific PG25	AI233219	321.4	923.7	2.9	2.87389
D12524	BAA02094	NP_000213	NM_000222	79	c-kit receptor tyrosine kinase.		174.9	736.2	2.9	4.20926
D13555	BAA02763	XP_043766	XM_043766	85	T cell receptor zeta chain		20	544.8	2.9	27.24
D88250	BAA25797	XP_006641	XM_006641		ESTs, Weakly similar to JC8554 probable serine proteinase [R.norvegicus]		423.9	649	2.9	1.53102
E00444		P13284	J03909	78	ESTs, Moderately similar to GILT (GAMMA-INTERFERON-INDUCIBLE PROTEIN IP-30) [H.sapiens]	AA798803	648.5	2588.9	2.9	3.99214
J00692				72	SEQUENCE WITHDRAWN FROM DATABASES		260.3	781.3	2.9	3.00154
M21622	P12840	P12319	X08948		Fc fragment of Ige, high affinity I, receptor for, alpha polypeptide		8077	23423.9	2.9	2.90007
U83895	AAB41443	NP_004753	NM_004762	48	sec7A		344.1	745.1	2.9	2.16536
X52820	CAA37003	NP_000406	NM_000415	98	islet amyloid polypeptide		108.9	719	2.9	6.60239
X89963	CAA62002	NP_003239	NM_003248	65	thrombospondin-4		185.6	725.6	2.9	3.70881
U82658	AAD41633	NP_002074	NM_002083	83	glutathione peroxidase		934.6	2705.8	2.9	2.89514
AA891220				94	EST (not recognised)	AA800587	784.3	2206.4	2.8	2.81321
AA892271					EST (mouse chromosome)		20	684.8	2.8	34.24
AF032120	AAC68268	NP_005707	NM_005716	84	Regulator of G-protein signaling 19		165.4	515.1	2.8	3.11427
NM_019192	NP_062085	CAA77836	Z11793	62	selenoprotein P, plasma, 1		753.8	831.5	2.8	1.10308
M27886	AAA58780	XP_013061	XM_013061	90	6-phosphofructo-2-kinase/fructose-2, 6-bisphosphatase	AI230247	1882.9	6498.6	2.8	2.77301
							386.1	762.5	2.8	1.97488

**Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation**

M82826	AAA441691	XP_050121	XM_050121		Rattus leucopus neurofibromatosis protein type I (NF1, type III splice variant) mRNA, 3' end				
S80118	'AAB47049	XP_008479	XM_008479	89	nude	148.3	648.1	2.8	4.35671
U04740	AAA18422	NP_000943	NM_000952	72	platelet-activating factor receptor CD44l	726.7	2013.2	2.8	2.77033
U46958	AAA82921	XP_030326	XM_030326	78		347.1	866.3	2.8	2.78392
X00975	P04466	AAA81848	M21812	74		161.3	1027.2	2.8	6.36826
X15467	CAA33494	NP_000804	NM_000813	99	Myosin, light polypeptide 2, alkali; ventricular, skeletal, slow	4708.3	13325.4	2.8	2.83019
NM_017158	NP_058854	NP_000760	NM_000769	94	GABA(A) receptor beta-2 preprotein	203	760.1	2.8	3.74433
NM_017073	NP_058769	XP_046468	XM_046468	72	cytochrome P450, 2c39 (Cyp2c39), glutamine synthetase (glutamate-ammonia ligase)	412.8	819.4	2.7	1.98498
NM_012620	NP_036852	NP_001743	NM_001752	92	Catalase	1666.4	4479.7	2.7	2.68825
AA845054	1AQA	1803548A	XM_008817	86	Cytochrome b5	114.6	768	2.7	6.68412
A1070295	S68690	P24522	L24498	88	DNA-damage-inducible transcript 1	1396.8	3803	2.7	2.72265
H31665				92	Mus musculus adult male stomach cDNA, RIKEN	35.7	509.5	2.7	14.2717
L17318	B48013	P24928		36	Proline-rich proteoglycan (PRPG2)	232.4	707.7	2.7	3.04518
M82855	AAA41059	NP_000763	NM_000772	64	cytochrome P-450 IIC13	236.9	688.2	2.7	2.90502
U23056	S71107	P31997	X52378	51	Carcinoembryonic antigen-related cell adhesion molecule	91.5	580.8	2.7	6.34754
U82612	AAB40865	CAA26536	X02761	91	fibronection	267.8	727.6	2.7	2.71695
AF038388	AAC27698	NP_004454	NM_004463	54	actin-filament binding protein Frabin	70.2	542.3	2.7	7.72507
AF074482	AAD03335	AAD45867	AF090033	96	GABA-B receptor 2 (GABA-BR2)	20	1046.5	2.6	52.325
M15202	AAA96446		no human		troponin T class proteins	20	1947.7	2.6	97.385
A1639410					Mus musculus adult male lung cDNA, RIKEN	7250.8	18746.9	2.6	2.58549
D25233	BAA04958	NP_000312	NM_000321	89	retinoblastoma 1	271.2	708.4	2.6	2.60472
NM_020075	NP_064460	NP_001960	NM_001969	80	eukaryotic initiation factor 5 (eIF-5) (Eif5),	252.4	694.4	2.6	2.75119
L09556	AAA42115	NP_003196	NM_003205	83	Rat salivary-specific cAMP response element-binding protein alpha	603.6	1124.2	2.6	1.86249
U09870	AAC82161	XP_008068	XM_008068	86	major vault protein	492.7	1281.7	2.6	2.60138
U69168	AAC53206	NP_003928	NM_003937	82	L-kynurenine hydrolase	292	1623.6	2.6	5.56027
X59893	Q63679	g3882205	AB018285	91	Putative zinc finger protein	56.1	549.5	2.6	8.79501
X78855	CAAS5411	CAA66977	X96332	74	organic cation transporter	133	1015.7	2.6	7.63884
NM_011129	NP_036259	NP_004565	NM_004574	88	septin 4 (Sept4), EST(not recognised)	321.7	1328.8	2.6	4.13056
AA892362						504.2	1288.7	2.5	2.57578
						594	1478.9	2.5	2.48873

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

AA893014	NP_062016	AAA52462	M10905	85	EST(not recognised)	AA95800	389.6	959.9	2.5	2.46381
NIM_018143	AAC53546	NP_036338	NM_012208	54	Fibronectin 1 (Fn1)	AA95800	692	1754.9	2.5	2.53598
AF035963	NP_112399	AAA63263	M55169	89	kidney injury molecule-1	AA95800	273.2	683.6	2.5	2.5022
NIM_031137	CAA34831	NP_000080	NM_000089	72	tripeptidylpeptidase II	AA95800	217.3	833.7	2.5	3.83663
X16957										
AI638984	NP_032917	AAG33941	AF195139	65	cysteine proteinase inhibitor cystatin C	AI231282	47717.7	118296.9	2.5	2.4781
NIM_008891					EST(not recognised)	AI231282	255	828.7	2.5	3.2498
AI638438	CAC08185	AAG52886	AF333387	93	pinin (Pnn)	AI639151	133	550.1	2.5	4.13609
AJ293948	Q64591	Q16698	L26050	81	EST(not recognised)	AI639151	36.4	771.9	2.5	21.206
D00569					Kelch related protein 1 (krp1 gene)	AI639444	221.6	558.2	2.5	2.51895
D12978	BAA02355	NP_002688	NM_002697	81	Rattus norvegicus mRNA for 2,4-dienoyl		238.8	591	2.5	2.47487
D38101	BAA07282	CAA84341	Z34810	83	CoA reductase precursor, complete cds		20	768	2.5	38.4
D84477	BAA20863	NP_001655	NM_001664	68	octamer binding protein		246	685.9	2.5	2.70691
L18948	AAA18214	NP_002856	NM_002865	100	L-type voltage-dependent calcium		1445.5	4100.7	2.5	2.83687
L19112	g310149	Q01742	X56191	64	channel alpha 1 subunit		1509.3	3820.6	2.5	2.53137
					RhoA					
					Intracellular calcium-binding protein					
					Rat (clone R2(A3B)) heparin-binding					
					fibroblast growth factor receptor 2					
					(extracellular domain) mRNA, partial					
					cds					
M60753	AAA40881	XP_033799	XM_033799	90	catechol-O-methyltransferase		303	762.5	2.5	2.5165
M83210	AAC12783		no human	81	neonatal submandibular gland proachar		258.6	656.7	2.5	2.53944
					cell protein					
U50948	AAC52910	NP_006628	NM_006637	52	taste bud receptor protein TB 667.		250.5	709.7	2.5	2.83313
X06150	P13255	S42627	X62250	82	Glycine methyltransferase		465.2	886.8	2.5	1.90628
X63744	CAA45276	NP_004163	NM_004172	87	glutamate/aspartate transporter		280.1	1598.5	2.5	5.69975
Z56277	CAA91216	NP_001820	NM_001829	68	CLC-5 chloride channel protein		141.9	567.9	2.5	4.00211
AF166267	AAG15432	AAH08881	BC008881	50	kinesin		121	633.4	2.5	5.23471
U44803	AAC52623	NP_057455	NM_016371	81	ovarian-specific protein	AA818427	134.7	834.5	2.4	6.19525
AA892228		NP_006251	NM_006260	81	Protein-kinase, interferon-inducible	AA874944	338.5	808.1	2.4	2.3873
					double stranded RNA dependent					
					inhibitor					
AA863582	P97570	A55575	U13616	86	Rattus norvegicus 190 kDa ankyrin		412.5	977.9	2.4	2.37067
AF034899	JC5836	Q15062	L35475	94	isoform mRNA, complete cds		20	513.2	2.4	25.66
					Olfactory receptor-like protein (SCR D-					
					9)		666.8	1584.2	2.4	2.37582

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

AI102562	SMRT1	SMHU1E	M10943	86	Metallothionein-1 (mt-1)	1117	2695.1	2.4	2.4128
AI104389	1TOH	I55282	M20912	88	Tyrosine hydroxylase	388.7	661.8	2.4	1.7026
NM_017235	NP_056931	NP_057455	NM_016371	81	hydroxysteroid 17-beta dehydrogenase 7 (Hsd17b7), EST(not recognised)	494.7	946.2	2.4	1.91267
AI639267					EST(not recognised)	349.4	1108.5	2.4	3.17258
AI639362					EST(not recognised)	470.9	1134.8	2.4	2.40985
D28512	BAA05870	NP_115674	NM_032298	71	Synaptotagmin III	3486.3	8233	2.4	2.37379
D36492	BAA07504	XP_038719	XM_038719	95	neural adhesion molecule F3	2281.2	2501.2	2.4	1.08644
S74265	AAB32559	XP_030840	XM_030840	78	HMW MAP2	191.5	567.2	2.4	2.98188
S75997	AAB33364	NP_057637	NM_016553	74	Nucleoporin p82 homolog	201.4	566.5	2.4	2.81281
U33314	AA052268	NP_002569	NM_002578	95	serine/threonine kinase beta-PAK	126.1	816.8	2.4	6.4774
U65486	AAB19102	NP_002434	NM_002443	45	beta-microseminoprotein	211.8	591.8	2.4	2.79415
AA799638					EST(not recognised)	234.4	829.2	2.3	3.53754
AA800202					EST(not recognised)	254.1	587.8	2.3	2.31326
AA874803					ESTs, Moderately similar to 0806162L protein URF5 [M.musculus]	255.7	891.7	2.3	3.48729
AA882280			NC_001807	89	EST(not recognised)	305.2	704.1	2.3	2.30701
AA893733	S40148	A34269	J02764		ESTs, Weakly similar to S40148 Integrin alpha-7A chain - rat [R.norvegicus]	3197.1	13625.9	2.3	4.26196
AA943677	g1763306	g2432000	AF020202	80	Munc13-3	111	754.3	2.3	6.7955
AI176191				74	EST(not recognised)	144.9	837	2.3	5.7764
AI231354	P49186	P45984	L31951		Stress activated protein kinase alpha II	521.8	1192.5	2.3	2.28623
AI639512				98	EST(not recognised)	165	580.5	2.3	3.51818
D28581	BAA05917	NP_000950	NM_000959	83	prostaglandin F2-alpha receptor	263.8	531.9	2.3	2.0163
L10073	AAA40816	NP_076917	NM_024012	69	5-hydroxytryptamine receptor	383.8	881.3	2.3	2.28625
M20724	AAA41953		no human		proline-rich protein	237.9	736.2	2.3	3.09459
M35965	AAA42089	NP_003226	NM_003235	85	thyroglobulin (Tg-2).	367.1	840.9	2.3	2.29086
M62891	AAA41710	NP_002249	NM_002258	44	3.2.3 antigen protein	374.1	866.7	2.3	2.31676
S83320	AAB50733	NP_068771	NM_021952		HuDe-neurospecific RNA binding protein	1104.3	2500.6	2.3	2.26442
S85184	AAB21516	NP_001903	NM_001912	91	Cyclic Protein-2 (CP-2) mRNA, partial cds	722.4	2050.4	2.3	2.83832
U66471	AAC52951	NP_008559	NM_008568	75	Rattus norvegicus cell growth regulator rCGR19 mRNA, complete cds	233.1	733.8	2.3	3.14801
X71127	CAA50440	XP_010866	XM_010866	84	complement protein C1r chain	1114.9	2529.4	2.3	2.26872
				60					

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Z22867	CA480489	NP_000913	NM_000922	68	3',5'-cyclic AMP phosphodiesterase	201.4	624.8	2.3	3.10228
AA859911	Q11205	JC5251	U63090	93	Slavitransferase 5	433.5	840.8	2.2	2.17024
AA875348					EST(not recognised)	501.5	1085.5	2.2	2.16451
AA891725					Mus musculus 13 days embryo head cDNA, RIKEN	415.4	904.4	2.2	2.17718
AA893160	AA817053	XP_008772	XM_008772	77	EST(not recognised)	458.2	1027.3	2.2	2.24203
AA894340	BAA04869	NP_036531	NM_012399	98	EST(not recognised)	298.1	654	2.2	2.18656
U61261	BAA32434	XP_040337	XM_040337	98	laminin-5 alpha 3 chain	235.6	516	2.2	2.19015
D21132	AA88885	CAC40898	AL138707	70	phosphatidylinositol transfer protein	248.3	533.6	2.2	2.16648
AB010428					acyl-CoA hydrolase	544.3	1812	2.2	3.32905
AF078779					Rattus norvegicus putative four repeat ion channel mRNA, complete cds	409	888.3	2.2	2.16699
M23572	AAB08828	NP_061821	NM_018948	89	gene 33	819.3	2427.6	2.2	2.96302
J03753	AAA73898	NP_001673	NM_001682	74	plasma membrane Ca2+ ATPase	217.4	505.2	2.2	2.32383
AI231445	P18395	BAA74908	AB020892	91	Rat unr mRNA for unr protein with unknown function	578.2	1287.3	2.2	2.23981
NM_023957	NP_076447	NP_056000	NM_015185	98	collyblatin I	482.4	1076	2.2	2.23051
AI639305					Mus musculus adult male testis cDNA, RIKEN	610.8	1856.8	2.2	3.20367
D00913	BAA00759	NP_000192	NM_000201	50	Intercellular adhesion molecule-1	20	1434.4	2.2	71.72
D14015	BAA03116	P24864	M73812	76	Cyclin E	20	2201.9	2.2	110.085
D63673	BAA08824	NP_000278	NM_000287	75	peroxisome assembly factor-2	736.5	1822.5	2.2	2.47454
L39991	AAC42054	BAB18537	AB040538	78	nucleoporin	361.7	787.4	2.2	2.17694
S81353	AAB36042	NP_002789	NM_002778	64	sulfated glycoprotein-1; SGP-1; prosaposin	22254	48442.1	2.2	2.17678
U19516	Q84350	Q13144	U23028	88	Rattus norvegicus initiation factor eIF-2B mRNA, complete cds	20	533.3	2.2	26.665
U30186	AAAT3829	XP_048609	XM_048609	85	GADD153	485.6	1013.3	2.2	2.17633
U51684	AAB17131	NP_110378	NM_030751	81	zinc finger homeodomain enhancer-binding protein-2	20	528.8	2.2	26.49
U92072	AAD04756	XP_045911	XM_045911	67	Tomosyn	509	1102	2.2	2.18503
X05472					Genomic 2.4 kb repeat DNA right terminal containing two ORFs	1069.5	2321.5	2.2	2.17084
X59859	CAA42519	NP_001911	NM_001920	74	decofin	390.6	874	2.2	2.23758
X68022	S26731	Q92782	U43843	87	Neuro-d4	334.3	742.8	2.2	2.22198
NM_009266	NP_033282	NP_036380	NM_012248	78	selenophosphate synthetase 2	371.5	768.5	2.1	2.08864

#### Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

[illegible]

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

AA875362	NP_071993	NP_071915	NM_022470	87	EST (not recognized)		893.9	834.4	2	0.93344
NM_022548	AAK58519	XP_029519	XM_029519	88	p53-activated gene 608	AA875455	569	1202.8	2	2.04211
AF262320					apoptosis-inducing factor	AA891591	105.7	1616.6	2	15.2942
AA891759					Mus musculus 8 days embryo cDNA, RIKEN		384.9	778.9	2	2.02364
AA893307					EST(not recognised)		311.6	981	2	3.08408
AF016048	AAC27974	NP_002563	NM_002572	99	platelet-activating factor acetylhydrolase alpha 2 subunit	AA899835	411.3	840.6	2	2.04376
AB004831	BAA25652	AAB24822	S52229	63	B29/Ig-beta/CD79b		816.4	1695.6	2	1.95443
AB011666	BAA25724	NP_009055	NM_007124	96	utrophin		700.2	1407.7	2	2.01043
AF052596	AAC08031	XP_031741	XM_031741	87	SNAP-23		618.2	1210.4	2	1.95784
AI070295	S68690	P24522	L24498	92	DNA-damage-inducible transcript 1		600.5	1021.2	2	1.70058
D13211	BAA02498	NP_000824	NM_000833							
D37884	BAA07128	NP_001268	NM_001277	94	N-methyl-D-aspartate receptor subunit		138.1	546.3	2	3.95583
D50558	BAA23470	XP_032680	XM_032680	47	choline kinase R		411.9	817.3	2	1.98422
NM_017017	NP_058713	XP_052255	XM_052255	56	Membrane glycoprotein		245.1	630.5	2	2.16442
J02879	AAA41715	NP_000894	NM_000903	87	hepatocyte growth factor (scatter factor)	E03190	602.7	501.8	2	0.83259
J04187	A31887	Q16696	U22028	82	NAD(P)H:menadiene oxidoreductase		2930	5955.3	2	2.03253
K02423	AAA86533	XP_030823	XM_030823	67	Cytochrome P450 IIA2 (see 257 on this sheet)		158.3	838.1	2	5.30069
L01624	AAA42137	XP_037046	XM_037046	85	myosin light chain		4891.2	9714.9	2	1.9882
L32601	P51652	P42330	D17793	91	serine/threonine protein kinase		1052.3	2115.2	2	2.01007
M18853	AAA42207	AAA60627	M15565	71	20-alpha-hydroxysteroid dehydrogenase (20-alpha-HSD)		584.9	1476.6	2	2.52453
M27151	AAA41636	NP_002460	NM_002469	55	T-cell receptor alpha-chain C-region precursor	L37866	835.9	1125.8	2	1.34681
M77694	AAA41142	NP_000128	NM_000137	79	muscle regulatory factor MRF4.		328.3	669.7	2	2.0399
M84719	P36365	Q01740	M84082	86	fumarylacetoacetate hydrolase (FAH)		371.5	759.4	2	2.04415
S76742	AAB32808	NP_064593	NM_020208	82	Flavin-containing monooxygenase 1		483.5	924.2	2	1.99396
U04835	1921368A	XP_005813	XM_005813	84	neurotransmitter transporter rB21a		825.6	1677.3	2	2.03161
U28938	T14328	S60813	Z48541	100	cAMP responsive element modulator		248.7	673.7	2	2.70889
U96921	AAB72152	NP_003857	NM_003866	89	Receptor-type protein tyrosine phosphatase D30		259	822.6	2	3.17568
X73371	Q63203	929428	X52473	85	Inositol polyphosphate 4-phosphatase type II-beta		393.1	800.7	2	2.03689
				54	Fc gamma receptor		218.1	607.4	2	2.78496

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X16957	CAA34831	NP_000090	NIM_000099	72	cysteine proteinase inhibitor cystatin C metallothionein	A1231292	33265.6	65579.4	2	1.97139
M11794	AAA41640		No Human		EST(not recognised)	A1176456	3073.2	6117.4	2	1.99056
AA666870					N-acylsphingosine amidohydrolase; acid ceramidase		372	698.5	1.9	1.87769
NM_019734	NP_082708	NP_004308	NIM_004315	79	EST(not recognised)	AA800082	1569.8	1982.8	1.9	1.25035
AA868299		XP_035810	XM_035810		ESTs, Weakly similar to T25404 hypothetical protein T28C6.1		366.8	691.8	1.9	1.88604
AA874990				91	[C.elegans]					
X73683	CAA52035	XP_011165	XM_011165	97	histone H3	AA875069	950.9	1764.5	1.9	1.85561
AA875090		NP_060065	NIM_017595				1432.5	2670	1.9	1.86387
AA875615				90n	I-kappa-B-interacting Ras-like protein 2 Mus musculus 10 days embryo cDNA, RIKEN		1096.2	2106.1	1.9	1.92127
AA891255					EST(not recognised)		586.8	1103.7	1.9	1.88088
AA891476					Mus musculus adult male corpus striatum cDNA, RIKEN		457.9	841.1	1.9	1.83686
AA892149					EST(not recognised)		469	905.9	1.9	1.93156
AA892754					EST(not recognised)		201.8	1623.4	1.9	7.54908
AA892779					EST(not recognised)		399.4	768.1	1.9	1.92313
M31788	AAA41838	NP_000282	NIM_000291	97	EST (not recognized) phosphoglycerate kinase	AA892787	331.6	644.4	1.9	1.94331
AA893000					Human DNA sequence from clone RP11-125A7		6621.7	12391.7	1.9	1.87138
AA893592	Q62703	Q15293	D42073		ESTs, Weakly similar to RETICULOCALBIN 2 PRECURSOR [R.norvegicus]		684.9	1303.7	1.9	1.80349
AA893970				94	Homo sapiens cDNA FLJ14285 fis, clone PLACE1002256		383.4	794.6	1.9	2.07251
AB015042	BAA28746	NP_004386	NM_004395	64	drebrin		443	862.2	1.9	1.94628
AF031430	AAC17131	XP_004526	XM_004526	84	Syntaxin 7		1202.5	2335.5	1.9	1.9422
AF048928	AAD02476	MMHUP3	L06132	93	Voltage-dependent anion channel 1		740.3	1382.4	1.9	1.86735
AF077354	Q63617	P34932	AB023420		Ischemia responsive 94 kDa protein (Irp94)		1267.4	2429.8	1.9	1.91715
AF091573	AAC64594	NP_003544	NM_003553	95	HGL-SL2 olfactory receptor		685.6	1101	1.9	1.60589
AF092450	AAC62110	NP_005447	NM_005456	66	Rattus norvegicus JIP-1b mRNA, complete cds		807.7	1517.3	1.9	1.87854
NC_001666				80n	mitochondrial genome	A1010632	1684.1	3277.8	1.9	1.94632
							50654.7	101748	1.9	2.00866





Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

U49099	AAC52597	AAD12945	AF073926	88	1	2429.5	4625.6	1.9	1.90393
U52104	AAB03282	NP_001378	NM_001387	94	1	287.8	556.2	1.9	1.93259
U64689	AAB40631	AAB40681	U69140						
U89744	g1890275	P24928	X63584	84		398.5	750.5	1.9	1.94179
U84708	AAB53325	XP_007322	NM_007322	30		631	1183.6	1.9	1.87575
X65446	CAA39087	NP_000760	NM_000769	59		888.5	855.7	1.9	1.28003
X62839	CAA44643	CAC19684	AL137780	58		364.4	689.1	1.9	1.89105
X65083	P80289	P34913	L05779	54		397.9	747	1.9	1.87736
X89703	CAA81850	CAA61822	X89875	78		512.6	979	1.9	1.91024
X85488	CAA65342	XP_010087	NM_010067	46		872	1620.7	1.9	1.8586
Z13883	CAA78384	NP_001891	NM_001900	93		833.9	1577.4	1.9	1.89159
Z14118	CAA78488	NP_006197	NM_006206	31		32.6	621.5	1.9	19.0644
Z36276	Q64595	JE0103	Y16105	81		85.7	750.6	1.9	8.75846
AA799711	S12207		No Human	86		515.1	992.9	1.9	1.92759
AA799991						453.1	563.7	1.8	1.2441
AA800216						375.3	823.4	1.8	2.19398
NM_031971	NP_114177	AAA52697	M11717	87		71.4	1286.8	1.8	17.7423
AF148511	AAD38515	NP_006858	NM_006867	84		184.1	754.7	1.8	4.0984
AA859897						1349.6	1979.8	1.8	1.46695
AA874873						709.4	2402.9	1.8	3.38723
AA874887	CAA06377	BAA73535	AB019987	100		1172	2059.2	1.8	1.757
AA891931						395	699.2	1.8	1.77013
AA891943						489.2	1218.4	1.8	2.4906
NM_020558	NP_065583	NP_006324	NM_006333	90		1283.2	2298.7	1.8	1.79138
AA892299						522.9	608.1	1.8	1.15911
NM_022521	NP_071866	NP_000265	NM_000274	87		838.3	1487.3	1.8	1.77419
						1885.3	3340.9	1.8	1.77208

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AA893495	P31211	A28321	J02943	58	ESTs, Highly similar to CORTICOSTEROID-BINDING GLOBULIN PRECURSOR [R. norvegicus]	AA893495	1.8	14,1503
AA893662	CAA48460	NP_002515	NM_002524	94	EST(not recognised)	AA893662	1.8	1,30355
AA894148	O88813	JX0202	D10040	62	Mixed cDNA - Apolipoprotein A-IV / 28S ribosomal RNA	AA894148	1.8	1,79369
X68394	AAC21449	XP_031166	XM_031166	89	N-ras gene for p21	X68394	1.8	2,43989
AB012933	AAB86925	NP_078917	NM_024641	88	Acyl-CoA synthetase 5	AB012933	1.8	1,14736
AF015953	NP_068522	NP_057018	NM_015934	82	TIC	AF015953	1.8	4,51579
AF023657	AAC26222	NP_003868	NM_003877	87	endo-alpha-D-mannosidase (Enman)	AF023657	1.8	1,84228
NM_021754	AAC72398	NP_055280	NM_014445	100	Nopp140 associated protein	NM_021754	1.8	1,83871
AF075382	AAC83936	NP_005680	NM_005689	78	suppressor of cytokine signaling-2	AF075382	1.8	2,44438
AF100470	NP_058974	NP_002777	NM_002786	97	ribosome attached membrane protein 4	AF100470	1.8	1,76627
AF106563	P15781	Q13557	AF071569	92	Rattus norvegicus mRNA for ABC transporter	AF106563	1.8	1,78783
NM_017278	P47971	Q15818	U61849	95	proteasome	NM_017278	1.8	1,81316
AI008268	NP_058975	NP_002777	NM_002786	97	Ca++/calmodulin-dependent protein kinase II, delta subunit	AI008268	1.8	1,46423
AI044716	NP_058975	NP_002777	NM_002786	97	Rattus norvegicus neuronal pentaxin precursor mRNA, complete cds	AI044716	1.8	1,50898
NM_017279	NP_058975	NP_002777	NM_002786	97	EST(not recognised)	NM_017279	1.8	1,8471
AI639026	AAC05725	NP_001348	NM_001357	83	RNA helicase A (Ddx9)	AI639026	1.8	0,73205
U81822	CAA42519	NP_001911	NM_001920	74	decorin	U81822	1.8	1,79845
X59859	CAA04022	NP_006076	NM_006085	91	3'(2'),5'-bisphosphate nucleotidase	X59859	1.8	1,79841
AJ000347	CAA07591	XP_008403	XM_008403	61	ELK channel 3 (Potassium channel)	AJ000347	1.8	3,28643
AJ007632	S36390	O75439	AF054182	88	Mitochondrial processing peptidase beta	AJ007632	1.8	1,79224
D13907	BAA05166	NP_055735	NM_014920	79	serine/threonine protein kinase	D13907	1.8	1,76389
D26178	BAA05910	NP_005200	NM_005209	88	phosphodiesterase I	D26178	1.8	1,75447
D28560	BAA08556	AAC28242	U61267	100	Rattus norvegicus mRNA for RNA binding protein (transformer-2-like), complete cds	D28560	1.8	2,22439
D49708	BAA14101	NP_001669	NM_001678	100	Na+-K+-ATPase beta2 subunit	D49708	1.8	2,559
D90048	E00898	CAA52817	X74818	88	Cancer specific cDNA	D90048	1.8	1,7989
E00898						E00898	1.8	1,83487

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

J02827	AAA40811	NP_000700	NIM_000709	86	branched chain alpha-ketoacid dehydrogenase	580.2	2199.2	1.8	3.78042
K01932	AAA41284	NP_000838	NIM_000847	75	glutathione S-transferase Yc subunit	1863	3378.2	1.8	1.81331
L05435	AAA42188	NP_056684	NIM_014849	84	synaptic vesicle protein (SV2)	1180.9	1858.9	1.8	1.57414
L08495	AAC42034	NP_000802	NIM_000811	86	GABA-A receptor alpha-6 subunit	537.9	1444.3	1.8	2.68507
L24207	AAA41023	NP_000787	NIM_000776	68	Testosterone 6-beta-hydroxylase (CYP3A1)	610.9	798.6	1.8	1.30725
M11670	AAA40884	NP_001743	NIM_001752	88	catalase	1087.6	1766.7	1.8	1.6244
M27433	AAA60735	CAA43011	X60481	100	histone H4.	744.8	935.4	1.8	1.25591
M27440	AAA74690	NP_000375	NIM_000384	53	apolipoprotein B.	673.4	1191.9	1.8	1.76997
NM_012632	NP_036764	XP_012244	XM_012244	94	Proline-rich protein, salivary	539.8	1237.3	1.8	2.28215
M86375	B40228	NP_004792	NIM_004801	76	Non-processed neuroxin I-beta	1697.9	3085.1	1.8	1.81701
S39221	AAB22435	NP_067544	NIM_021569	98	NMDA receptor	1071.7	1897.9	1.8	1.77092
S58528	AAB26277	NP_002201	NIM_002210	91	Integrin, alpha V	881.5	867.2	1.8	0.98378
S76758		BAB55545	AB038670	95n	BDNF=brain-derived neurotrophic factor (alternatively spliced)	1502.8	2742.7	1.8	1.82508
S79304	AAB21288		No Human						
U10697	AA464638	NP_036254	NIM_012122	70	Rattus sp. cytochrome oxidase subunit I mRNA, partial cds; and tRNA-Ser gene, complete sequence; mitochondrial genes for mitochondrial products	40182.4	71690.7	1.8	1.78413
U12588	AA450881	NP_004302	NIM_004311	89	kidney microsomal carboxylesterase	431.5	1486.2	1.8	3.38781
U17837	AA474468	NP_036363	NIM_012231	67	ADP-ribosylation factor-like protein 3	735.9	1308	1.8	1.77742
U27518	g1177818	g3287473	U59209	62	zinc finger protein RIZ	533.8	942.2	1.8	1.76508
U32498	AAC52265	NP_068579	NIM_021807	94	UDP-glucuronosyltransferase	510	909	1.8	1.78235
U40828	S70009	AAC34993	AF043244	81	rsec8	295	1475.8	1.8	5.00271
U49953	AAB61533	XP_034970	XM_034970	92	Unknown Glu-Pro dipeptide repeat protein	86.8	898.2	1.8	10.3249
U50353	AAC99551	NP_066290	NIM_021010	35	protein kinase MUK2	20	651.5	1.8	32.575
U50717	AAC52643	XP_012080	XM_012080	88	defensin 3a (RatNP-3a)	3548.3	6373.5	1.8	1.79621
U66882	Q62981	Q15072	X70394	80	Synaptic density protein PSD-83 mRNA, partial cds	470.9	847.2	1.8	1.79911
U73142	AAC71059	XP_043351	XM_043351	94	Pancreas zinc finger protein	362.6	687	1.8	1.83849
U75916	g1839162	g5924408	AF177533	88	p38 mitogen activated protein kinase	1560.6	4054.8	1.8	2.59823
U75921					Zonula occludens 2 protein (ZO-2)	969.3	1707.2	1.8	1.76127
X01785	CAA25825	NP_005936	NM_005944	69	APC binding protein EB1	20	1482.3	1.8	74.115
X06832	CAA29988	NP_001266	NM_001276	53	MRC OX-2 antigen	1240	1147.5	1.8	0.9254
					Precursor of protein A	3133.2	5607.4	1.8	1.78967



Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

AF321130	AAK11183	NP_001518	NM_001527	67	histone deacetylase 2	AA892297	1431.6	2501.8	1.7	1.74756
AA882538					EST (some homology with mouse chromosomal)					
L12458	AAA41552	NP_000230	NM_000239	64	lysozyme	AA892775	441.9	1343.8	1.7	3.04051
AA892854		O43927	AF044197		ESTs, Weakly similar to B		13049.9	22753.7	1.7	1.74359
					LYMPHOCTE CHEMOATTRACTANT					
AA892993	AAF68708	XP_047641	XM_047641	40	PRECURSOR [M.musculus]		389.2	675.9	1.7	1.73664
AA893172					Mus musculus HMG domain protein					
AA893328	P35565	P27824	L10284	73	HMGX2 (Hmgp2)	AA892893	1198.6	2026.7	1.7	1.69089
					EST (not recognized)		276.3	756.5	1.7	2.73797
					ESTs, Highly similar to CALX RAT					
					CALNEXIN PRECURSOR					
AA893870				84	[R.norvegicus]		822.7	1410	1.7	1.71387
AA893871			M11167	95n	28S ribosomal RNA gene (2 on d.s.)		10682.1	18663.1	1.7	1.74714
L08752	AAA41010	NP_001750	NM_001759	88	EST (not recognised)		453.6	1166.4	1.7	2.57143
D29683	BAA06152	XP_033687	XM_033687	90	cyclin D2 (VIN1)	AA898106	1167.7	2028.2	1.7	1.73692
AA957961	P18395	BAA74908	AB020692		endothelin-converting enzyme.	AA956930	433.5	721.3	1.7	1.6639
				98	Rat unr mRNA for unr protein with unknown function					
AB001453	BAA28174	NP_058544	NM_016848	82	N-Shc		1056.1	1754.7	1.7	1.66149
AB009463	BAA32331	BAA32330	AB009462	84	LRp105		1339.8	5515.9	1.7	4.11696
AF015304	O54698	Q89808	AF079117		Solute carrier family 29 (nucleoside transporters), member 1		356.2	613.1	1.7	1.72122
AF020210	AAB71235	XP_050175	XM_050175	78	DLP1 splice variant 4		937.7	1614.2	1.7	1.72145
AF041107	P49816	T08722	XM_046659	83	Tulip 1		1001.5	2948.7	1.7	2.94428
AF041373	AAB97078	NP_008097	NM_007166	92	Claithrin assembly protein short form (CALM)		645.3	1123.7	1.7	1.74136
AF062594	2008109A	S40510	M86667	87	Nucleosome assembly protein 1-like 1		3102.1	5233.2	1.7	1.68699
AF072439	O88553	Q9Y6Q3	AF022158	97	Rattus norvegicus zinc-finger protein-37 mRNA, complete cds		420.6	915.7	1.7	2.17713
AF080568	P18636	Q99447	D84307	70	Phosphatase cytidylyltransferase 2, ethanolamine		1103.8	1850.2	1.7	1.67621
AF082533	AAC89890	NP_004820	NM_004829	88	NK receptor KILR-1 (KILR-1)		1664.1	2812.3	1.7	1.68998
AF080682	AAC36317	NP_005483	NM_005492	83	Cystatin-related epididymal spermatogenic protein (GRES) mRNA, complete cds		542.7	1501.9	1.7	2.76746
				82	HFV-FD1 olfactory receptor		813.8	1356	1.7	1.66628
AF091575	AAC64595	NP_006628	NM_006637	46			742.3	1293.9	1.7	1.72862



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D26154	BAA05141	XP_032827	XM_032827	82	RB109 (brain specific protein)	2099.7	3648.7	1.7	1.73772
D44481	BAA07924	AAH08506	BC008506	92	CRK-II	1184.3	4019.8	1.7	3.39424
D78613	BAA11433	XP_005781	XM_005781	80	Protein tyrosine phosphatase epsilon M				
NIM_030656	NP_085914	NP_000021	NM_000030	76	Serine-pyruvate aminotransferase	1624.6	2765.3	1.7	1.70214
H31859	NP_058710	XP_002155	XM_002155	79	EST(not recognised)	1570.5	2674.4	1.7	1.7029
NM_017014	AAA41497	NP_001598	NM_001607	83	glutathione-S-transferase, mu type 2	675.1	1404.1	1.7	2.07984
J02749	AAA41497	NP_001598	NM_001607	83	peroxisomal 3-ketoacyl-CoA thiolase precursor	3729.9	6538.7	1.7	1.76305
J02998	AAA42006	NP_004152	NM_004161	99	ras protein	694.7	1192.8	1.7	1.717
J04591	AAA41096	AAA52308	M80536	81	Diacylglycerol kinase IV	1446.4	2501.1	1.7	1.72919
L34049	AAA51369	NP_004516	NM_004525	73	megalin	743.7	1246.5	1.7	1.67608
M22400	AAA41735	NP_004475	NM_004484	88	developmentally regulated intestinal protein (OCI-5)	1970.4	2314.2	1.7	1.17448
M27467	AAA78270	NP_004365	NM_004374	64	Heart cytochrome oxidase subunit VIc (COX-VIc)	1290.5	2707	1.7	2.09764
M31038	AAA41608		No Human	73	MHC non-RT1.A alpha-1-chain protein precursor	3759.4	6488.1	1.7	1.72583
M33936	AAA41458	NP_000769	NM_000778	83	cytochrome P450 (IVA3)	624.9	1091.4	1.7	1.74652
M58287	AAA41726	XP_038856	XM_038856	56	Rat non-specific lipid transfer protein (nsL-TP) mRNA, 3' end	559.2	925.3	1.7	1.65469
M84391	AAA41754	NP_003544	NM_003553	66	Olfactory protein mRNA	454	755.1	1.7	1.66322
M69055	AAA42019	NP_002169	NM_002178	71	IGFBP-6	557	970.9	1.7	1.74309
M73049	AAA41444	NP_116116	NM_032727	91	alpha-interneuron	8553.8	14283.1	1.7	1.6698
M91652	AAC42038	NP_002056	NM_002065	80	glutamine synthetase	1289.7	3230.7	1.7	2.505
S68736	AAB29713	XP_052590	XM_052590	88n	Myosin heavy chain mRNA	2983	4987	1.7	1.6651
M65578	AAA41303	NP_002967	NM_002976	43	voltage-dependent sodium channel alpha subunit	2188.2	3759.5	1.7	1.71808
U16686	AAA91974	NP_086290	NM_021010	71	defensin RatNP-1 precursor	9546.1	18710.4	1.7	1.96
U18762	AAB07997	NP_003699	NM_003708	89	retinol dehydrogenase type I	1918.2	3276.7	1.7	1.70822
U22321	AAC52202	XP_048422	XM_048422	78	casein kinase 1 gamma 3 isoform	62.7	647.1	1.7	10.3206
U31159	AAC99858	AAD15418	AC004912	72	CR16	436.2	1054.4	1.7	2.41724
U35774	AAC52385	NP_005495	NM_005504	81	cytosolic branch chain aminotransferase p58	320.6	1012.8	1.7	3.15908
U44129	AAC52434	NP_005561	NM_005570	98	Smooth muscle cell LIM protein (SmlLM)	8454.7	14456.1	1.7	1.70983
U44948	Q62908	Q16527	U46006	90	Cardiac ankyrin repeat protein	709.7	1205.6	1.7	1.69875
U50736	A44437	A67291	X83703			1735.1	2987.2	1.7	1.72739
						488.9	813.8	1.7	1.67139



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U59240	AAC52854	NP_055363	NM_014548	89	N-tropomodulin	1525.2	2572.8	1.7	1.68686
U78517	AAD03423	XP_002437	XM_002437	95	Rattus norvegicus cAMP-regulated guanine nucleotide exchange factor II (cAMP-GEFII) mRNA, partial cds	489.7	813.4	1.7	1.66102
U81186	AAD00504	NP_057226	NM_016142	83	Smooth muscle-specific 17 beta-hydroxysteroid dehydrogenase type 3	921.3	1562.5	1.7	1.69597
U92803	AAB61572	NP_001287	NM_001296	58	CC-chemokine-binding receptor JAB61 put. preoptic regulatory factor-1	643	1065.7	1.7	1.65739
X53231	CAA37323	NP_001638	No Human	74	apolipoprotein D	881.5	1488.2	1.7	1.66557
X58572	CAA39158	NP_001811	NM_001820	74	decorin	29173.3	50377.6	1.7	1.72684
X59859	CAA42519	AAB23169	S43859	59	Hydroxysteroid sulfotransferase	24475.2	41608.1	1.7	1.70001
X63410	CAA45007	AAK38351	AY029770	60	CCK(B)	788.5	1307	1.7	1.65758
X79208	CAA55797	NP_001176	NM_001185	59	zn - alpha2 - glycoprotein	3326.2	5718.2	1.7	1.71854
NM_012826	NP_038958	XP_038497	XM_038497	71	TPCR13 protein	1109.1	1892.6	1.7	1.70843
X89701	CAA61848	NP_112482	NM_031205	98	Rattus norvegicus mRNA for caldendrin	20	723	1.7	36.15
Y17048	MORT	NP_000275	NM_000284	95	Pyruvate dehydrogenase E1 alpha form 1 subunit	4430.4	9782.2	1.7	2.20797
Z12158	CAA78146	BAA20817	AB002360	88	R. norvegicus mRNA for Ost oncogene	4699.1	7933.9	1.7	1.68839
Z35554	Q63408	XP_004967	XM_004967	95	caveolin	572.9	949.6	1.7	1.65753
Z48614	CAA86587	XP_007804	XM_007804	90	beta-alanine oxoglutarate aminotransferase	1520.1	2524.5	1.7	1.66075
D87839	BAA26570	BAA34780	AB003334	89	heat shock protein, 105 kDa; HSP105	403.5	678.2	1.7	1.67584
NM_013659	NP_038587	NP_006802	NM_006811	71	42 C-HSP	2867.8	3732.6	1.6	1.2577
NM_012032	NP_036162	CAC11116	AL357374	93n	tumor differentially expressed 1 EST(not recognised)	1797.9	3378.3	1.6	1.87958
AA789751	AA789751	NP_006234	NM_006243	89	Human DNA sequence from clone RP11-353C18 on chromosome 20	1657.3	2393.5	1.6	1.44422
AA800126	AA800126	XP_052680	XM_052680	71	EST (not recognised)	911.4	1498.2	1.6	1.64484
AA800597	AA800597	XP_052680	XM_052680	89	protein phosphatase 2, regulatory subunit B (B56)	1276.9	2585.3	1.6	2.02467
AA800651	AA800651	XP_052680	XM_052680	71	vascular endothelial growth factor	1548.4	2539.5	1.6	1.64008
AF062644	AF062644	XP_052680	XM_052680	71	EST (not recognised)	678.2	1073.5	1.6	1.58287
AA659468	AA659468	XP_052680	XM_052680	71	Mus musculus 18 days embryo cDNA, RIKEN	486.6	1002.1	1.6	2.01792
AA859520	AA859520	XP_052680	XM_052680	71	Sialyltransferase 5	1118.1	1783.1	1.6	1.59476
AA859911	AA859911	XP_052680	XM_052680	71	Sialyltransferase 5	479.4	759.9	1.6	1.58511

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Y1793	CAA76850	BAB13384	AB046788	52	Dut1	AA860017	688.6	869	1.6	1.26198
AA866293			AB029885		EST(not recognised)		843.7	1320.3	1.6	1.56489
AA875050	O54783	Q9Y259			ESTs, Weakly similar to KICE RAT CHOLINE/ETHANOLAMINE KINASE [R.norvegicus]					
X65704	CAA46626	NP_003085	NM_003084	32	small nuclear ribonucleoprotein E	AA875102	1925.6	3115.6	1.6	1.61799
NIM_011070	NP_035200	NP_036526	NM_012394	100	prefoldin 2 (Pfdn2),	AA891049	3721.6	5838.1	1.6	1.56817
AA891271				85	Mus musculus, RIKEN cDNA 2810411G23 gene		2802.1	4378.8	1.6	1.56197
AA891311	AAD03414	AAD53398	AF095735	87	EST(not recognised)	AA891589	758.9	1180.5	1.6	1.55554
AF087650					sarcosine dehydrogenase		637.2	1008.9	1.6	1.58333
AA891742		AAH14026	BC014026	88n	EST(not recognised)		1881.1	3081.9	1.6	1.62772
AA891828	Q63532	g685073	S73288	61	Homo sapiens, Similar to RAD23		1159.2	2836.4	1.6	2.44686
AA891911	AAG09182	AAG35611	AF202082	91	Small proline-rich protein gene		1256.5	1980	1.6	1.57581
AF175224					preconditioning-inducible gene 1 protein	AA892551	1311.2	2124.7	1.6	1.62042
AA892554		XP_032936	XM_032936	86n	Homo sapiens Ras-GTPase activating protein SH3 domain-binding protein 2 (KIAA0860)		1170.6	1856.1	1.6	1.5856
NM_013166	NP_037298	NP_000605	NM_000614	84	Ciliary neurotrophic factor (Cntrf), Homo sapiens mRNA; cDNA DKFZp434M228	AA892559	1108.6	1814.9	1.6	1.63711
AA892642					EST (not recognized)		3710.9	5890.1	1.6	1.58724
AA892780					Mus musculus adult male testis cDNA, RIKEN		394.3	1029.6	1.6	2.61121
AA892805					Ribosomal protein S15		2425.7	3841.4	1.6	1.58363
AA892895	R3RT15	R3HU15	J02984	100	Mouse RIKEN full-length cDNA		1543.6	3008.2	1.6	1.84882
AA893596	AK016067	AAH03542	BC003542	93(mus)	EST(not recognised)		1780.8	2813.3	1.6	1.57115
AA893743					Intracellular calcium-binding protein		696.4	1106.8	1.6	1.58932
L18891	AAA41637	XP_048126	XM_048126	62	50 kD glycoprotein (Rh50)	AA957003	1585.5	2482.1	1.6	1.5655
AB015194	BAA32443	XP_035439	XM_035439	71	alpha(1,2) fucosyltransferase		4329.2	6984.5	1.6	1.61335
AB015637	BAA31130	NP_000139	NM_000148	76	PC1 mRNA for plasma cell membrane glycoprotein, partial cds		465.7	733	1.6	1.57397
AB017586	BAA33393	AAF36094	AF110304	73	myocilin		3790.8	6089.7	1.6	1.80644
AB019393	BAA34199	NP_000252	NM_000261	78	Rattus norvegicus dynamin-like protein DLP1 isoform DLP1-37 mRNA, complete cds		754.3	1188.1	1.6	1.5751
AF019043	Q08877	JC5685	AB006865	100			9580.4	13879.5	1.6	1.45177
							951.1	1483.8	1.6	1.56009

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AF031657	AAC53578	NP_003416	NM_003425	86	Zinc-finger protein 94 (Zfp94) gene, partial cds	1123.7	1795.3	1.6	1.59767
AF038085	g2773054	g2959872	AJ002308	87	Synaptogyrin 2	2137.3	3427.5	1.6	1.60366
AF041066	AAC23487	NP_002928	NM_002937	73	ribonuclease 4	477.7	749.5	1.8	1.56898
AF056324	AAC29479	NP_002858	NM_002967	74	scaffold attachment factor B; SAF-B	1237.4	2010.3	1.8	1.82462
AF055387	O88496	P38435	M81592	88	Gamma-glutamyl carboxylase	782.7	1721.4	1.6	2.25698
AF072411	AAC24876	XP_034144	XM_034144	84	fatty acid translocase/CD36 mRNA	787.6	1266	1.6	1.8493
AF072935	AAC26004	XP_053461	XM_053461	97	small GTP-binding protein rab5	1760.7	2820.7	1.8	1.60203
AF091573	AAC64594	NP_003544	NM_003553	66	HGL-SL2 olfactory receptor	554.7	890	1.6	1.80447
AF091577	AAC64597	NP_038492	NM_012360	67	HAF-TP1 olfactory receptor	633.2	1016	1.6	1.80455
AF095741	AAC64180	XP_054663	XM_054663	68	MG87	210.5	1578.2	1.6	7.49739
AI008888	UDRTS	P04080	U46992	78	Cystatin beta	1183	1927.9	1.6	1.82987
AF361476	AAK30521	XP_053763	XM_053763	74	transcription factor MRG1	438.5	707.9	1.6	1.61437
Y17322					CDK103	6202.9	9862.3	1.6	1.58995
AI071511	T41751	P55196	AB011399	91	Afadin (31 on d.s.)	1213.9	1984.3	1.6	1.61817
NM_024165	NP_077069	NP_001144	NM_001153	89	ZAP 36/annexin IV (Anxa4),	1114.3	1745.4	1.6	1.56636
U95162	AA654065	AAH02873	BC002873	73	nuclear protein E3-3orf3	962.2	1559.7	1.6	1.62087
NM_031137	NP_112399	AAA63263	M55169	89	tripeptidylpeptidase II	584.2	932.1	1.6	1.59552
NM_031797	NP_113995	NP_002222	NM_002231	62	kangal 1 (suppression of tumorigenicity 6), prostate (Kall1),	2306.1	3804.3	1.6	1.64987
NM_017073	NP_058769	NP_002056	NM_002065	91	Glutamine synthetase (glutamate-ammonia ligase)	10687.7	16912.8	1.6	1.58542
NM_017148	NP_058844	NP_004059	NM_004078	79	cysteine rich protein (Carp1),	5874	9141.7	1.6	1.5563
AI235707	P35665	P27824	L10284		ESTs, Highly similar to CALX RAT CALNEXIN PRECURSOR				
X16978	CAA34850		No Human	84	[R.norvegicus]	3286.9	5839.8	1.6	1.77572
AF028504	AAB81526	AAC83179	AC004974	81	MHC class I RT1.C/E (transmembrane protein)	141.9	517.1	1.6	3.64412
AI638965					SPA-1 like protein p1294	1067.3	2250.3	1.6	2.1084
AI638980					EST(not recognised)	647.6	1434.8	1.6	2.21488
AI639132					EST(not recognised)	1376	2187.1	1.6	1.68946
AI639264					EST(not recognised)	554.2	610.2	1.6	1.10105
NM_016926	NP_058622	BAA76384	AB020880	77	EST (not recognised)	569.7	897.6	1.6	1.57557
AI639486					squamous cell carcinoma antigen recognized by T-cells 3 (Sart3),	353.5	580.8	1.6	1.643
AJ006855	S68448	O43426	AF009040	87	EST(not recognised)	176.9	616.2	1.6	3.48332
					Synaptotagmin 1	2264.6	2102.3	1.6	0.82833

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

D12673	P32076	P41211	D16593	98	Hippocalcin	1176.2	3289.6	1.6	2.7968
D14839	BAA03573	NP_002001	NM_002010	99	Fibroblast growth factor 9	2759.8	5440.1	1.6	1.97119
D31873	I58353	JP0078	D26309	95	LIM-domain containing, protein kinase	4057.2	4465.4	1.6	1.10061
D38281	BAA07413	AAG39636	AF086924	96	B-regulatory subunit of protein phosphatase 2A	3038.2	4102.1	1.6	1.35017
D84045	BAA18932	XP_043865	XM_043865	87	phosphatidylinositol 3-kinase p85 alpha subunit	545.4	846	1.6	1.55116
NM_012641	NP_036773	AAD51330	AF172331	69	regeneration protein, lithostatin, pancreatic stone protein	846.1	1320.6	1.6	1.56081
D14424	BAA03317	NP_003730	NM_003739	70	20-alpha-hydroxysteroid dehydrogenase	1026.6	1888	1.6	1.83908
H31323					Rattus norvegicus clone RP31-153J8 strain Brown Norway	832.1	1595.6	1.6	1.91756
H33219		XP_002656	XM_002656	81n	Hypothetical protein FLJ20080 (Human)	693.8	1083.3	1.6	1.5614
H33467					EST(not recognised)	496.7	812.5	1.6	1.6358
H33651					EST(not recognised)	653.2	1018.9	1.6	1.55986
J02875	AAA42113		No Human	99	serpin-binding protein precursor	327.9	518.1	1.6	1.58005
K03486	AAA41865	NP_002729	NM_002738	76	protein kinase C type III	191.5	833.5	1.6	4.35248
L03201	Q02765	A42482	M80896		Cathepsin S	1889.8	2756.4	1.6	1.8312
L23148	P41135	JC5396	U57645	90	Inhibitor of DNA binding 1, helix-loop-helix protein (splice variation)	1216	1909.7	1.6	1.57048
L35558	AAB51161	NP_004161	NM_004170	82	neuronal glutamate/aspartate transport protein	521.9	837	1.6	1.60376
M12156	AAA41314	XP_015755	XM_015755	99	helix-destabilizing protein	2251.1	3566.7	1.6	1.58443
M18331	AAA41872	NP_005391	NM_005400	98	Protein kinase C epsilon subspecies	1213	1885.2	1.6	1.55416
M33648	AAA41336	NP_005509	NM_005518	88	3-hydroxy-3-methylglutaryl-CoA synthase	2880.7	4750.7	1.6	1.77219
M34176	P21851	P21851	M34175	100	R.norvegicus beta-chain clathrin associated protein complex AP-2 mRNA, complete cds	3118.9	4895	1.6	1.56946
M36074	AAA41583	NP_000892	NM_000901	77	mineralocorticoid receptor	546.4	879.1	1.6	1.60889
M64755	AAC42063	XP_028712	XM_028712	87	cysteine sulfinic acid decarboxylase	493	770.6	1.6	1.56308
M65251	Q00900	P31629	M60119	88	Human immunodeficiency virus type 1 enhancer-binding protein 2	508	963.2	1.6	1.89606
M90518	AAA88788	Q14833	U92457	96	Glutamate receptor, metabotropic 4	2249.2	3509.6	1.6	1.56038
S46785	P35659	P35658	M86826	77	Insulin-like growth factor binding protein complex acid-labile subunit	888	1403.7	1.6	1.59074

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

S61948	AAB26775	NP_002465	NM_002474	97	smooth muscle myosin heavy chain isoform SM1A; SMHC SM1A	483.8	756.3	1.6	1.56325
M22063	AAA41297	XP_046330	XM_046330	91	glucose transporter protein	2074.4	3360.4	1.6	1.61994
S70804	NP_038860	AAC50050	U01156		clone p6.1 transcript	747.8	1181	1.6	1.55255
NM_012728					pancreatic beta cell receptor for the glucagon-like hormone				
S78556	AAB34982	NP_004125	NM_004134	88	peptide 1	583.5	936.2	1.6	1.60446
S78744	AAC60704	AAA60181	Y00892	93	75 kda glucose regulated protein	1317.2	2058.5	1.6	1.56278
NM_017044	NP_058740	NP_000306	NM_000315	80	protein S-activated protein C cofactor	443.3	707.6	1.6	1.59621
U12268	AAA50832	NP_001730	NM_001739	71	Parathyroid hormone (Pth)	747.5	1187.9	1.6	1.58916
U17261	AAA56772	AAB62398	U80835	70	carbonic anhydrase V	20	1098.1	1.6	54.905
U32314	P52873	G01833	XM_035184	82	arylamine N-acetyltransferase-2.	360	559.2	1.6	1.56333
U39320	AAA81372	CAC15495	AL118506	86	Pyruvate carboxylase	487.3	773.9	1.6	1.58814
U48592	AAB03502	NP_002173	NM_002182	87	cysteine string protein	1441.2	2303.5	1.6	1.59832
U52530	AAC53050	AAA35790	M28366	86	Interleukin-1 receptor accessory protein	1118.3	3018.9	1.6	2.69954
U56839	AAC00048	NP_002555	NM_002564	70	erbB3 proto-oncogene	1528.6	3446.3	1.6	2.2575
U67500	AAB02230	NP_002827	NM_002836	77	P2u receptor protein	1141.9	1779.4	1.6	1.55828
U70268				98	protein tyrosine phosphatase alpha	2527.7	4004.6	1.6	1.68429
U72350	AAB17353	XP_046220	XM_046220		mut-7	10364.7	19225.8	1.6	1.85493
				91	Rattus norvegicus Bcl-xalpha mRNA, complete cds	1204.7	1973.7	1.6	1.63833
U75395	AAC52634	NP_005063	NM_005072						
U76206	O35881	Q15391	D13626	87	furosemide-sensitive K-Cl cotransporter	839.6	1372.2	1.6	1.63435
U76997	AAB19066	NP_005568	NM_005575	80	Rattus norvegicus VTR 15-20 receptor mRNA, complete cds	469.9	739.6	1.6	1.57395
U92564	AAB58646	BAA34480	AB018303	83	Insulin-regulated membrane aminopeptidase IRAP	1658.2	2707.5	1.6	1.63279
X04139	CAA27756	NP_002729	NM_002738	96	Rattus norvegicus Olf-1/EBF associated Zn finger protein Roaz mRNA, alternatively spliced form, complete cds	736.6	1179.8	1.6	1.60168
X14948				100	protein kinase C C-terminal region	2570	3987.6	1.6	1.55156
X17607	CAA35608	XP_004030	XM_004030		Rattus norvegicus mitochondrial genome	1804.9	3397.2	1.6	1.88221
X55246	CAA38987	XP_032738	XM_032738	87	Rat beta-2 adrenergic receptor	656.6	1490.2	1.6	2.26857
				85	Inhibitory glycine receptor alpha-1 subunit	1194	1122.1	1.6	0.93978

#### Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

[illegible]

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

AA800260	NP_065589	XP_049964	XM_049964	41	EST (not recognised) sulfotransferase-related protein SULT-X1	AA800315	420.3	631.3	1.5	1.50202
NM_020884	P47973	S34427	M63625	86	Rattus norvegicus gene for TIS11	AA800315	804.7	1207.7	1.5	1.50081
AA800813	NP_000421	NP_000421	NM_000430		EST(not recognised)		1698.4	1734.4	1.5	1.08644
AA800881	AA827875				platelet-activating factor acetylhydrolase beta subunit (PAF-AH beta)	AA801441	3330.4	7821.1	1.5	2.3484
AF016049	AAA41358	NP_003158	NM_003167	99	hydroxysteroid sulfotransferase	AA817887	3260.6	4848.1	1.5	1.48687
M31363	NP_037057	NP_000602	NM_000611	60	CD59 antigen	AA818025	1092.4	908.7	1.5	0.83275
NM_012825				49	Mus musculus adult male cerebellum cDNA, RIKEN		23194.7	34177.6	1.5	1.47351
AA859585	AAH03203	CAB45016	Z93930		EST(not recognised)		1455.3	2772.8	1.5	1.90531
AA859909	NP_058854	NP_000760	NM_000769	87n	Contains the XBP1 gene for X-box binding protein 1		888.3	1331.8	1.5	1.5338
AA860044	NP_031553	XP_031553	XM_031553	72	cytochrome P450, 2c39	AA866240	1528.4	2272.5	1.5	1.48685
NM_017158				84	Homo sapiens KIAA0332 protein (KIAA0332)		2650.2	4008.7	1.5	1.5126
AA866409					EST(not recognised)		1182.9	1831.8	1.5	1.54857
AA866439					Homo sapiens PAC clone RP4-673M15		3555.1	5343.2	1.5	1.50297
AA874857					EST(not recognised)		366.8	533.8	1.5	1.45529
AA875194	NP_047123	XP_047123	XM_047123	87n	Homo sapiens KIAA1460 protein		1240.3	2073.8	1.5	1.67201
AA875500	NP_001698	NP_001698	NM_001707	74	B-cell CLL/lymphoma 7B (Bcl7b), serine/arginine-rich protein specific kinase 2	AA875661	876.4	1086.6	1.5	1.21702
NM_008745	NP_033300	XP_004842	XM_004842	80	diphosphoinositol polyphosphate phosphohydrolase type II	AA891069	1447.4	2112.7	1.5	1.45965
NM_008274	AAK28279	NP_061987	NM_019094	85	LIC-2 dynein light intermediate chain 53/55	AA891107	949.1	2512.9	1.5	1.46179
AF253473	NP_112288	NP_006132	NM_006141	90	EST (moderately similar to human transmembrane protein)	AA891132	699.5	1288.6	1.5	2.64767
NM_031026					Sulfite oxidase		563.1	818.7	1.5	1.81358
AA891700	Q07116	P51687	L31573	87	Mus musculus 18 days embryo cDNA, RIKEN		1424.6	2154	1.5	1.45392
AA891738					Homo sapiens, clone RP11-2812, complete sequence		1160.6	1773.5	1.5	1.512
AA891800					EST(not recognised)		506.7	591.3	1.5	1.52809
AA891922							1404.6	2138.1	1.5	1.16698
AA891998				86n					1.5	1.52221

#### Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

AA892248	XP_043322	XM_043322	92n	Rattus norvegicus mitochondrial genome	80657	120243.3	1.5	1.4908
AA892300				peroxisome receptor 1 (PXR1)	1003.7	1472.2	1.5	1.46677
AA892313				Mus musculus 10 days embryo cDNA, RIKEN	2396.2	3538	1.5	1.4765
NM_022298	NP_071634	XM_028662	93	alpha-tubulin	19107	28544.5	1.5	1.54627
AA892507	BAB22691	X81788		ESTs, Moderately similar to DS1_HUMAN DS-1 PROTEI [H.sapiens]				
AA892531	B39066	PIHUB6	83n	ESTs, Weakly similar to B39066 proline-rich protein 15 - rat [R.norvegicus]	1080.7	1320.9	1.5	1.22226
AA892557			38	Mus musculus 18 days embryo cDNA, RIKEN	3310.7	4963.6	1.5	1.49928
Z34922	CAA84402	NM_001363	81	nucleolar protein NAP57	1159.2	1694.8	1.5	1.46204
AA892753				Mus musculus adult male testis cDNA, RIKEN	2437.1	3631.9	1.5	1.49025
AA892851				EST, weakly similar to Human protein tyrosine kinase	2690.2	4157.8	1.5	1.54554
AA892921	AAC50062	U02680	93n	Mus musculus RIKEN cDNA 2210417006	290.2	770.6	1.5	2.65541
AA892986				Mus musculus, Similar to glycogenin 2, clone MGC:6424 IMAGE:3593927	2594.7	3884.4	1.5	1.50091
AA893011				Mus musculus, Similar to cytochrome P450, 4a10, clone MGC:25972	1147.6	1673.5	1.5	1.45826
NM_018737	NP_061207	NM_018857	83	cytidine 5'-triphosphate synthase 2; CTP synthetase homolog	1674.6	2580.7	1.5	1.54108
NM_023721	NP_076210	NM_015994		ATPase, H+ transporting lysosomal vacuolar proton pump); V-ATPase subunit D	1177.9	1725.1	1.5	1.46456
AF285154			92	solute carrier family 10 member 2 gene	4062.1	5935.6	1.5	1.46121
NM_013731	NP_038759	XM_009494			3808.1	5319	1.5	1.47418
U51017	AAB39509	NP_008206	90	serum/glucocorticoid regulated kinase 2	3802.5	5227.2	1.5	1.45099
AA893607			53	kallistatin	898	1335	1.5	1.48664
AA893670				Mus musculus, Similar to paxillin, clone IMAGE:3583842	1186.3	1973.4	1.5	1.66349
				EST (not recognized)	2189.9	3208.3	1.5	1.45838



Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

Accession	Q63244	1823398A	U02310	ESTs, Weakly similar to HEPATOCYTE NUCLEAR FACTOR 3 FORKHEAD HOMOLOG 1 [R.norvegicus]	Accession	888.4	1329.2	1.5	1.53053
AF275151	AAF86977	XP_039385	XM_039385	androgen receptor-related apoptosis-associated protein CBL27	AA893853	2638.8	2873.8	1.6	1.13195
AA893994				Mus Musculus Strain C57BL6/J Chromosome 11 Clone RP23-271013 chimera (chimaerin) 1 (Chn1),	AA894317	1119.7	1677.7	1.5	1.49835
NM_032083	NP_114472	CAA35769	X51406	topoisomerase II alpha, 3' untranslated	AA898854	4075.2	6194.9	1.5	1.52015
AB06446				apoptosis-associated tyrosine kinase (Aak)	AA925717	784.1	1174.4	1.5	1.49777
NM_007377	NP_031403	NP_004911	NM_004920	Trans-Golgi network integral membrane protein TGN38		5919.7	8835.6	1.5	1.49258
AA926242	S22415	g1518269	X94333	calcium-modulating cyclophilin ligand	AA943387	544	789.8	1.5	1.45184
AF302085	AAG21394	NP_001736	NM_001745	R68 DNA-binding protein		1764.8	2579.1	1.5	1.46141
AA956941	Q62655	P15884	M74719	ARF-like protein 5	AA956958	766.9	1166.7	1.5	1.52132
X78604	CAA55338	AAD40383	AF100740	RT1.P1 pseudogene for TL antigen		413	610.5	1.5	1.47821
AB002169				Protocadherin 5		3944.2	5792.3	1.5	1.46856
AB004277	BAA20360	NP_061752	NM_018929	prolactin-like protein H		5498.4	8112.3	1.5	1.47539
AB009889	BAA32480	NP_000939	NM_000948	MEGF2		468.8	687.2	1.5	1.46587
AB011528	BAA32459	XP_042739	XM_042739	TUBBY protein		1032.6	2592.9	1.5	2.51104
AB011544	BAA32734	NP_003311	NM_003320	PSD-Zip45		816.7	1193.8	1.5	1.46174
AB017140	BAA34311	NP_004263	NM_004272	antsecretory factor		1317.3	1708.7	1.5	1.29712
AB017188	BAA32696	NP_002801	NM_002810	p58/p45 mRNA, alternatively spliced form		13322.7	19353.8	1.5	1.45269
AF000899	AAC82319	XP_037529	XM_037529	Inhibitor of DNA binding 3, dominant negative helix-loop-helix protein		504.6	775.8	1.5	1.53746
AF000942	P41138	Q02535	X69111	Calcium-activated potassium channel (rSK1) mRNA		1549.1	1793.7	1.5	1.1579
AF000973	AAB82740	XP_012875	XM_012875	cytochrome b5		1228.2	2938.9	1.5	2.39285
AF007107	AAB67609	AAA63169	L39945	SH3 domain protein 2 C1		2764.6	4672.9	1.5	1.68026
AF006604	O35180	Q99963	X99964	Mint2; neuronal munc18-1 binding protein		1335.1	743.8	1.5	0.55711
AF029107	AAC05305	NP_005494	NM_005603	Rattus norvegicus chemokine CX3C mRNA, complete cds		1465.4	1877.6	1.5	1.28129
AF030358	AAC33834	AAB49679	U84487	green-sensitive opsin		1228.3	3071.3	1.5	2.50045
AF031528	AAB86946	NP_064445	NM_020061			2295.2	4145.2	1.5	1.80603

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AF032666	AAC01578	CAB54145	AL031770	94	Rattus norvegicus resc5 mRNA, complete cds	1759.7	2558	1.5	1.45366
AF032872	AAC40114	XP_055306	XM_055306	88	potassium channel regulatory protein KChAP	1556.3	2352.4	1.5	1.51153
AF038761	AAB88865	AAD29870	AF087514	92	stearyl-CoA desaturase 2	6600.8	9784.2	1.5	1.47924
AF039218	T14039	O14578	AC002563	96	Postsynaptic density protein (clitron)	1081.9	1611.2	1.5	1.48923
AF039584	AAC77439	XP_052060	XM_052060						
AF040261	AAC98929	XP_008271	XM_008271	47	Decay accelerating factor soluble-form precursor (DAF) mRNA, complete cds	2114.9	1938.2	1.5	0.91645
AF069775	AAC21580	AAB60937	AF002246	81	Phosphatidylcholine transfer protein (Pctp)	781.8	1193.4	1.5	1.52648
AF079162	AAC99398	NP_000255	NM_000264	90	Rattus norvegicus L1-like cell adhesion molecule (CALL) mRNA	422.9	686	1.5	1.62213
AF081365	2009199A	C55119	U03884	92	Rattus norvegicus patched (ptc) mRNA, partial cds	3093.1	7339.6	1.5	2.37289
AF083330	AAC33291	XP_039750	XM_039750	85	Potassium inwardly-rectifying channel, subfamily J	882.2	1973.1	1.5	2.23657
AF087037	AAC34894	XP_012976	XM_012976	82	kinesin-like protein KIF3C	2301.6	3216.4	1.5	1.39746
AF088839	AAC63035	XP_032173	XM_032173	83	BTG3	523.3	983.6	1.5	1.87961
AF091247	AAC79846	NP_004510	NM_004519	96	N-ethylmaleimide sensitive factor	608	889.4	1.5	1.46283
AF091578	AAC64598	NP_006628	NM_006637	95	Rattus norvegicus potassium channel (KCNQ3)	2853.5	4894.7	1.5	1.71533
AF110508	AAC95393	NP_000594	NM_000603	47	Rattus norvegicus isolate EVA-TN1 olfactory receptor mRNA, partial cds	1504.5	2328.9	1.5	1.54796
AI008852	91220484	P04720	X03558	97	endothelial nitric oxide synthase	1200.6	1820	1.5	1.51591
AI012588	NP_036720	XP_038125	XM_038125	99	Eukaryotic translation elongation factor 1 alpha 2	5992.4	10085	1.5	1.68297
AI010371	NP_036831	NP_036460	NM_012328	76	Insulin-like growth factor-binding protein (IGF-BP3)	383	601.9	1.5	1.53155
AI02699	CAA69108	NP_003704	NM_003713		EST(not recognised)	853.9	805.4	1.5	0.9432
Y07783	1CKTA	S02826	X12597	86	microvascular endothelial differentiation gene 1	628.1	964.2	1.5	1.53511
AI029805	AAC52986	BAB55345	AK027754	91	ER transmembrane protein	2233.3	3375.7	1.5	1.51153
U35245	AAA41888	NP_000524	NM_000533	99	High mobility group 1	325.5	503.9	1.5	1.54808
M25888	P47971	Q15818	U61849	96	vacuolar protein sorting homolog r-vps33b	3212.3	4657.9	1.5	1.45002
AI072943				100	lipophilin	2534.4	3793.1	1.5	1.49685
				95	Rattus norvegicus neuronal pentraxin precursor mRNA, complete cds	2119.6	3278.5	1.5	1.54675

[illegible]

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

AI639432	NP_113857	AAL16670	AF421885	52	EST (not recognized)	1428	2207.8	1.5	1.54608
AI639447					Mus musculus 18 days embryo cDNA, RIKEN	703.9	1363.7	1.5	1.93735
NM_031669					uterine-specific proline-rich acidic protein				
AJ001320	CAA04681	NP_003820	NM_003829	77	Multiple PDZ domain protein	781.5	1181.9	1.5	1.51235
AJ006064	CAA06836	NP_055140	NM_014325	73	coronin-like protein	743.7	1458.7	1.5	1.96141
AJ010386	CAA09103	XP_043098	XM_043098	78	ETR-R3b protein	2311.7	1603.2	1.5	0.89352
D00512	BAA00401	NP_000010	NM_000019			528.7	813.6	1.5	1.53887
D10754	BAA01586	XP_027825	XM_027825	76	mitochondrial acetoacetyl-CoA thiolase	672.6	996.7	1.5	1.48186
D12927	BAA02310	NP_003186	NM_003195	84	proteasome subunit R-DELTA	4768.6	7943.6	1.5	1.66581
D17614	BAA04533	NP_006817	NM_006826	85	transcription elongation factor S-II	1185.3	1720.9	1.5	1.47679
D26500	BAA05508	NP_001363	NM_001372	99	14-3-3 protein theta-subtype	4050.8	5024.3	1.5	1.24032
D31873	I58353	JP0078	D26309	80	Dynein-like protein 9A, partial cds	831	1285.8	1.5	1.54729
D37880	P55146	A53743	L24529	95	LIM-domain containing, protein kinase	1533.4	2242.2	1.5	1.46224
D38072	BAA07266	XP_056374	XM_056374	89	Bruton agammaglobulinemia tyrosine kinase (32 on d.s.)	1280.7	1810.1	1.5	1.49145
D48434	BAA08412	AAA51784	J05225	97	protein tyrosine phosphatase	800.6	1163.9	1.5	1.46378
U32170	AAD03478	NP_004874	NM_004683	80	Arylsulfatase B	356.9	530.8	1.5	1.48725
D83661	BAA12035	AAB60366	U20141	74	senescence marker protein-30 (SMP30) gene (regucalcin)	881.8	1279.2	1.5	1.45087
D65844	BAA21782	XP_008531	XM_008531	79	Inducible nitric oxide synthase	606.3	937.9	1.5	1.54692
D80404	A41158	S66504	X87212	83	rabaptin-5	2591.5	3853.6	1.5	1.48702
H31217				78	Cathepsin C (dipeptidyl peptidase I)	461.7	670.9	1.5	1.45311
NM_013625	NP_038653	NP_000421	NM_000430		EST (not recognized)	985.6	1497.7	1.5	1.51858
H31479				99	platelet-activating factor acetylhydrolase	12809.7	19539.5	1.5	1.52537
H31590		AAF69029	AF132811	88n	Nectin-like protein 2	5831.4	8945.5	1.5	1.53402
H33149					EST(not recognised)	381.4	733.5	1.5	1.92318
H33528					Mus musculus, Similar to hypothetical protein FLJ11200, clone MGC:7482	456.2	921.7	1.5	2.02039
J01435					Homo sapiens chromosome 17, clone hRPK.214_C_8	1554.6	2358.7	1.5	1.51724
J02649	AAA66036	XP_009351	XM_009351	93	Rattus norvegicus mitochondrial genome	67882.6	102306	1.5	1.5071
J04503	AAA41917	NP_066283	NM_021003	98	H+,K+-ATPase	1398.5	2050	1.5	1.46586
L00191	AAA41166	AAA52462	M10905	76	protein phosphatase 2c, fibronectin 1	1337.9	1947.8	1.5	1.45586
						3431.7	5347.1	1.5	1.55815

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

L01702	AAA41983	CAA37447	X53364	89	Tyrosine-phosphatase (LRP)	831.9	1690.1	1.5	2.03161
L04485	AAA41571	NP_002746	NM_002755	90	MAP kinase kinase	5954.3	8837.6	1.5	1.48424
L05489	Q06175	Q98075	M60278		Diphtheria toxin receptor (heparin binding epidermal growth factor - like growth factor)				
L10072	AAA40815	NP_076917	NM_024012	81	serotonin receptor	417.5	606.4	1.5	1.45248
L10362	S34981	g3882191	AB018278	81		957.1	1466.8	1.5	1.53255
L10689	AAA41253	XP_050619	XM_050619	94	Rattus norvegicus synaptic vesicle protein 2B (SV2B) mRNA, complete cds	1122.8	1675.3	1.5	1.49207
L10689	AAA41253	XP_050619	XM_050619	79	glycogen phosphorylase	2267.9	3493.5	1.5	1.54041
L13619	A47112	O15503	U98878	79	glycogen phosphorylase	810.4	1190.5	1.5	1.46903
L14684	AAA41107	NP_079272	NM_024996	84	Growth response protein (CL-6)	3620	5624.1	1.5	1.52599
L14937	AAA41816	NP_002560	NM_002569	82	elongation factor G	682.4	1054.7	1.5	1.54557
L23219	I58580	JW0050	AB010414	60	proprotein convertase 4	1199.3	1764.9	1.5	1.47161
L26525	AAA21089	XP_004559	XM_004559	94	Guanine nucleotide binding protein (G protein), gamma 7 subunit	3491.4	5178.8	1.5	1.4833
L34074	AAC37675	NP_149046	NM_033057	80	tyrosine kinase receptor (Ptk-3) gene	1533.1	2245.4	1.5	1.46461
L34821	P51650	g3766467	g3766467	84	OL1 receptor	568.9	879.8	1.5	1.54649
M11596	P10093	P08881	X15943	88	Succinic semialdehyde dehydrogenase	452.9	930	1.5	2.05343
M15883	AAA40890	NP_008028	NM_007057	72	Rat beta-type calcitonin gene-related peptide mRNA, complete cds	2741.1	4208.6	1.5	1.53464
M17527	1GP2	RGHJ1	M17219	90	clathrin light chain (LCB2)	3715	5568.3	1.5	1.49887
M18416	AAA61927	NP_001955	NM_001964	99	Guanine nucleotide binding protein, alpha inhibiting 1	957.7	1416.5	1.5	1.47906
M23643	RHRTT	P20396	M63582	72	nerve growth factor-induced protein	1039	1560.5	1.5	1.50192
M24104	1SFCA	P19065	AF135372	55	Thyrotropin releasing hormone	1425.1	2980.5	1.5	2.09143
NM_012541	NP_036673	XP_044660	XM_044660	98	Vesicle-associated membrane protein (synaptobrevin 2)	8839.3	11107	1.5	1.25655
M31178	KLRTB	S00234	X06661	74	cytochrome P450	1082	1615.8	1.5	1.49335
M34238	AAA40889	NP_002496	NM_002505	98	Cerebellar Ca-binding protein, spot 35 protein	1341.9	2074.9	1.5	1.54624
M38666	AAB02287	NP_000775	NM_000784	55	CCAAT binding transcription factor-B subunit (CBF-B)	1331.3	2063.8	1.5	1.55021
M64378	AAA41741	AAK95089	AF399604	70	cytochrome P450	631.7	951.6	1.5	1.50641
M64780	AAA40703	AAC39776	AF016903	70	Olfactory protein	1081.2	1620.4	1.5	1.52695
M64793	AAA42064		No human	77	agrin	2230.8	4258.7	1.5	1.90905
					Rat salivary proline-rich	879.8	1341.5	1.5	1.52478

M28127

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M80550	AAA40682	BAA83012	AB028983	94	adenylyl cyclase type II	3740.8	5682	1.5	1.51358
M83143	P13721	P15907	X17247	80	beta-galactoside-alpha 2,6-sialyltransferase	1393.7	2541.1	1.5	1.82328
M83878	P35286	P51153	X75693	90	RAB13	1474.4	3247.8	1.5	2.20279
M83879	AAA41985	XP_050525	XM_050525	52	RAB15	1187.3	1728.6	1.5	1.45582
M87786	AAA41369	No Human	No Human		Immunoglobulin light chain variable region	1503.8	2228.3	1.5	1.48178
M93669	S02180	A34174	M25756	80	Secretogranin II	3027.8	4399.5	1.5	1.45304
M94287	AAA41718	AAH01883	BC001883	42	Nopp140	3752.7	4182.7	1.5	1.11458
M98567	A45493	I38994	U26425	92	Rattus norvegicus phospholipase C beta-3 mRNA, partial cds	2124.7	3247.6	1.5	1.5285
S42358	AAB22850	NP_055044	NM_014228	90	GABA transporter; GAT-B	1545.5	2285	1.5	1.48498
S46785	P35859	P35858	M86828	77	Insulin-like growth factor binding protein complex acid-labile subunit	3015.1	4397.1	1.5	1.45836
S48190	AAB23958	NP_001607	NM_001616	90	type II activin receptor; rActR-II	619.6	1477.3	1.5	2.38428
S56508	AAB19808	XP_028111	XM_029111	92	Phosphatidylinositol 4-kinase	315.1	700.4	1.5	2.22279
S65091		XP_002892	XM_002892	87	Cyclic AMP phosphoprotein, 19KD	2091.4	3071.3	1.5	1.46854
S79213	AAB35244	NP_008232	NM_008241	80	phosphatase inhibitor-2; I-2	8774.4	13427.7	1.5	1.53033
NM_031798	NP_113986	NP_000328	NM_000338	63	solute carrier family 12, member 2	985.3	1002	1.5	1.01695
S83279	AAB49519	NP_000405	NM_000414	83	HSD IV=peroxidase proliferator-inducible gene	1744.8	2615.2	1.5	1.49885
S88336	AAB22104	XP_009274	XM_009274	62	Mullerian inhibiting substance	5066.3	4922.4	1.5	0.9716
U02320	AAA19945	NP_039251	NM_013957	90	Rattus norvegicus clone ndf40 neu differentiation factor	893.8	1361.6	1.5	1.52372
U09211	AAA20498	NP_003046	NM_003055	87	Vesicular acetylcholine transporter mRNA	3716.9	5435.8	1.5	1.46285
U10354	P48442	P41180	U20759		Calcium-sensing receptor (hypocalcemic hypercalcemia 1, severe neonatal hyperparathyroidism)	1040.3	1608.6	1.5	1.54628
U16245	AAA66221	NP_001642	NM_001651	93	Aquaporin-5	2799.8	4313.8	1.5	1.54068
U17264	JQ0623	P22736	D49728	77	Immediate early gene transcription factor NGFI-B	3778.6	5588.3	1.5	1.47893
U17919	AAA80105	NP_001614	NM_001623	89	allograft inflammatory factor-1.	981.5	1485.2	1.5	1.54487
U20907	AAC52233	NP_000861	NM_000870	92	5-HT4L receptor	1072.7	1165.3	1.5	1.08632
NM_019553	NP_062426	NP_004719	NM_004728		DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 21 (RNA helicase II/Gu) (Ddx21)	613	784.6	1.5	1.27993
U26033	AAC52317	AAF03234	AF168793	78	carnitine octanoyltransferase	553.7	538	1.5	0.97165
				82					

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U39875	AAB04146	NP_009167	NM_007236	98	EF-hand Ca <sup>2+</sup> binding protein p22	2826.8	4133.9	1.5	1.4624
U47014	AAA87888	AAA91807	U49114	48	pro-protein convertase 5 isoform B	2399	3638.8	1.5	1.47511
U47110	AAB19127	AAB88198	AF035582	94	peripheral plasma membrane protein				
U49058	AAC52659		no human		CASK	383.9	584.7	1.5	1.52305
U50185	AAA92861	XP_028840	XM_028840	37	CTD-binding SR-like protein rA4 mRNA, partial cds	1272.1	1866.9	1.5	1.46757
U52663	AAC05607	AAD01439	AF010472	88	protein phosphatase 1	1433.4	2123.7	1.5	1.48158
U57062	g1470062	g338011	J03189	88	peptidylglycine alpha-amidating monooxygenase (PAM) gene	2671.1	4120.2	1.5	1.54251
U59672	AAB18293	P46098	D49394	59	Natural killer cell protease 4 (RNKP-4) (47 on d.s.)	371.5	540.4	1.5	1.45464
U61729	AAB09057	NP_008604	NM_008613	85	5-Hydroxytryptamine (serotonin) receptor 3A	1663	2414.8	1.5	1.45207
U65478	AAC52843	S68887	U59423	62	Rattus norvegicus proline rich protein mRNA, complete cds	753.2	1100.2	1.5	1.4607
U67081	AAB40718	AAF14051	AF036943	98	MAD (mothers against decapentaplegic; Drosophila) homolog 1	439.9	682.2	1.5	1.55081
U67910	AAB48263	XP_018104	XM_018104	90	C2-HC type zinc finger protein r-MyT2 mRNA	2253.3	3324.5	1.5	1.47539
U76392	AAB18747	NP_009204	NM_007273	76	Mast cell protease 7 (RMCP-7)	1237.4	1802.2	1.5	1.45644
NM_012551	NP_036683	NP_001855	NM_001984	80	B-cell receptor associated protein 37	4147.6	5070.7	1.5	1.22256
U75920	AAB1885	NP_036457	NM_012325	72	Early growth response 1 (Egr1), APC binding protein EB1	831.8	722.7	1.5	0.86884
U76635	AAB71495	NP_005214	NM_005223	95	Deoxyribonuclease I (DNaseI) ??	1320.7	1941.9	1.5	1.47036
U77626	AAK21974		No Human	71	formin binding protein 21 mRNA	1889.7	3083.8	1.5	1.54988
U77831	AAC53424	XP_026964	XM_026964		rRNA promoter binding protein	638.6	581.2	1.5	1.07909
U89529						13221.3	17597.9	1.5	1.33103
U89743	AAB48883		No human	58	Rattus norvegicus fatty acid transport protein mRNA, complete cds	2219.7	3371.9	1.5	1.51908
U89905	AAB72145	XP_043771	XM_043771	75	Rattus norvegicus unknown protein	822.4	1227.9	1.5	1.48307
U90829	AAD09247	NP_003896	NM_003905	96	Methylacyl-CoA racemase alpha	1207	1763.5	1.5	1.46106
U76112	AAC53095	NP_001409	NM_001418	85	APP-binding protein 1	298.4	1348.6	1.5	4.51944
U95178	AAC33408	AAB19032	U41111	81	transcription repressor NAT1	13013.1	18875.7	1.5	1.45052
U95727	AAB64094	NP_005871	NM_005880	86	DOC-2 p58 isoform	793.7	1153.6	1.5	1.45345
					DnaJ (Hsp40) homolog, subfamily A, member 2	1323.9	1773.8	1.5	1.33983

	P03957	AAA36321	J03209	83n	53 kD polypeptide induced by growth factors (EGF) and oncogenes (H-ras; src; polyoma middle T)	536	828		
X02601									
X07467	S01233	P11413	X03674	93	Glucose-6-phosphate dehydrogenase	6985.4	10384.5	1.5	1.54478
X12535	CAA31053	XP_031588	XM_031588	99	Ras-related protein p23	4398	8653.7	1.5	1.4866
X13412	CAA31778	NP_005237	NM_005246	92	fik protein	609.7	708.4	1.5	1.53382
X13804	CAA32038	XP_037942	XM_037842	87	Heavy neurofilament polypeptide (854 AA)	33801.6	50718.1	1.5	1.16188
X17053	CAA34801	NP_005399	NM_005408	53	Immediate-early serum-responsive JE gene (6 on d.s.)	1204.5	2430.4	1.5	1.50046
X17611	CAA35613	XP_044141	XM_044141	77	precursor polypeptide	2213	3289.6	1.5	2.01777
X52840	P18666	MOHULP	X54304	97	Myosin regulatory light chain	888.9	1331.6	1.5	1.48649
X53773	CAA37791	AAD15584	AC006942	73	alpha-c large chain (AA 1-938)	660.4	1022.6	1.5	1.49803
X56596	P29826	P05538	M11136	74	MHC class II antigen RT1.B-1 beta-chain	2144.1	3284.8	1.5	1.54846
X58631	PT0183	I78844	L36845	94	ESTs, Highly similar to PT0183 protein-tyrosine kinase [R.norvegicus]	1818.4	1412.2	1.5	1.53202
X59677	CAA42203	NP_003975	NM_003984	88	Rattus sp. cDNA for M2 gene (clone M2-788)	5779.8	8789.1	1.5	0.77662
X62325					R.rattus TcRValphaT48a2 mRNA for T cell receptor V-alpha J-alpha	2727.5	4169.2	1.5	1.5172
X68782	CAA48681	AAH09851	BC009851	59	Ig heavy chain VDJ-region CH1-CH2	921.2	1412	1.5	1.52858
X78949	CAA55546	XP_032511	XM_032511	92	Prolyl 4-hydroxylase alpha subunit	2312.4	3355.6	1.5	1.53278
X82445	CAA57825	CAB66659	AL136725	81	RnuDC	4491.4	6577.9	1.5	1.45113
Y14706	CAY75008	NP_005284	NM_005283	70	putative G-protein coupled receptor	4977.9	7491.4	1.5	1.46455
Y17048	MCRT	NP_112482	NM_031205	98	Rattus norvegicus mRNA for calbindin	2113.6	3203.6	1.5	1.50493
NM_008139	NP_032165	AAC50363	U40036	94n	guanine nucleotide binding protein, alpha q polypeptide (Gnaq)	1173.8	1794.2	1.5	1.51571
Z11995	Q89068	P30533	M63959	76	ALPHA-2-MACROGLOBULIN RECEPTOR-ASSOCIATED PROTEIN PRECURSOR	1072.7	2346.4	1.5	1.52854
Z12298	CAY78170	NP_001911	NM_001920	74	dormatan sulfate proteoglycan-II (decorin)	24967.7	37602.5	1.5	2.18738
Z68145	CAY82268	CAC51028	AJ318022	62	lambda-5	2343.2	2483.4	1.5	1.50605
AB017188	BAA32596	NP_002801	NM_002810	88	antileukotriene factor	5391.3	8075.4	1.5	1.05983
Y17322					CDK103	275.9	842.2	1.5	1.49786
					AI014135	275.9	842.2	1.5	2.32765



#### Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

[illegible]

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AA800036	NP_055390	NM_014575	87n	Schwannin-Interacting protein 1 (SHIP1)	AA800063	1811	2957.8	1.4	1.63324
ZB3868	NP_061120	NM_018650	87	serine/threonine kinase	AA800120	1391.2	2432.2	1.4	1.74827
X97831	NP_000378	NM_000387	85	carbamate/acetylcholine carrier protein	AA800176	726	1049.3	1.4	1.44532
AA800168				EST (not recognized)		2128.6	2890.8	1.4	1.3584
AA800176	AAF71034	AF116609	84n	PRO0815	AA800176	1914.8	2781.5	1.4	1.44219
AA800198				Mus musculus adult male tongue cDNA,					
				RIKEN		2992.6	4252.8	1.4	1.42111
NM_013006	NP_006321	NM_006330	86	Lysophospholipase (Lyp1)	AA800220	635.9	891.4	1.4	1.40179
AA800258				Mus musculus adult male tongue cDNA,					
				RIKEN		1315.9	1787.1	1.4	1.35808
AA800318	ITHUC1	M13203		ESTs, Weakly similar to B26423 serine proteinase inhibitor 2.2 - rat [R.norvegicus]					
AA800622			81	EST (not recognized)		3153.8	4284.9	1.4	1.35231
AA800693				Mus musculus adult male tongue cDNA,		1585.5	2861.4	1.4	1.80473
				RIKEN		448.1	621.8	1.4	1.38764
AA800731				Mus musculus 10 days embryo cDNA,					
				RIKEN		866.2	1234.8	1.4	1.42554
AA800735				Mus musculus, Similar to supervillin, clone IMAGE:3589533		702.7	1017.8	1.4	1.44841
AA800787				Mouse DNA sequence from clone RP23-193O17 on chromosome X		1952.6	2225.2	1.4	1.13861
AA800800				EST (not recognized)		3210.1	4540	1.4	1.41429
NM_019907	NP_054890	NM_014171	99	postsynaptic protein Crip1 (Crip1),	AA818843	4608.3	7545.2	1.4	1.63802
NM_019745	AAH02506	BC002506	96n	programmed cell death 10 (Pdc10)	AA848545	1392.6	2012.6	1.4	1.44521
NM_019745	AAH02506	BC002506	96n	programmed cell death 10 (Pdc10)	AA848548	3523.4	4776.7	1.4	1.35571
AA848648	S26050	U43899	96	Ribosomal protein L21		1359.9	2781.2	1.4	2.04515
U50707	AAC52611	NM_003885	89	P35	AA850869	2445.6	3372.2	1.4	1.37886
AA850781	NP_000628	NM_005038		Human peptidylprolyl isomerase D (Rat EST; mouse hypothetical protein)					
			87(mus)	Ribosomal protein L4		1572.5	2259.3	1.4	1.43676
AA850940	P50878	L20868	92	Mus musculus, clone IMAGE:3256954		8308.7	11979.3	1.4	1.44178
AA859577				Rattus norvegicus mitochondrial genome		1636.2	2345.8	1.4	1.43369
AA859612				DnaJ (Hsp40) homolog, subfamily B, member 1	AA859612	5626.4	8004.5	1.4	1.42287
NM_018808	NP_061278	NM_006145	86		AA859648	2942.7	3886.4	1.4	1.35467

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NM_013217	NP_037349	XP_043645	XM_043645	91	afadin (AF-6), heparan sulfata 6-O-sulfotransferase 1 (Hs6st1)	AA859702	1332.1	1831.2	1.4	1.44974
NM_016818	NP_058633	XP_017698	XM_017698	83n	EST(not recognised) Mus musculus adult male brain cDNA, RIKEN	AA859740	3308 1397	2352.3 1838.1	1.4 1.4	0.71109 1.38733
AA859760					Homo sapiens cDNA FLJ12453 fis, clone NT2RM1000430		907.7	1248	1.4	1.3749
AA859788					Homo sapiens clone 015h12 My015 protein		2220.7	4847.4	1.4	2.18283
AA859829					vacuole membrane protein 1		1403.7	1862.2	1.4	1.39788
AA859919	AAH09758	AAH09758	BC009758	84	Mus musculus, Similar to cholinergic receptor, nicotinic, alpha polypeptide 2 (neuronal), clone MGC:18795 IMAGE:4183582,	AA859954	1547.1	2090	1.4	1.35091
AF411216	AAL05859				Mus musculus, chromosome 5 clone CTC-352M6		1140.8	1580.2	1.4	1.38517
AA860057					Homo sapiens mRNA; cDNA DKFZp586D0918 (from clone DKFZp586D0918		723.4	1045.8	1.4	1.44567
AA874889					Mouse mRNA for scg		1026.9	1418.3	1.4	1.38115
D87015	BAA11034	XP_017163	XM_017163	96	EST(not recognised)	AA874982	1248.6	1719.2	1.4	1.3769
AA875032	NP_033868	NP_001763	NM_001762	92	chaperonin subunit 6a (zeta) (Cct6a)	AA875047	470.3	672.4	1.4	1.42873
NM_009838					Mus musculus adult male tongue cDNA, RIKEN		2871.3	4115.6	1.4	1.43336
AA875143					ESTs, Weakly similar to T45062 hypothetical protein c316G12.3 [H.sapiens]		1216.2	1647.9	1.4	1.35486
AA875171	NP_115909		NM_032520	64	Mus musculus adult male tongue cDNA, RIKEN		1249.5	1734.2	1.4	1.38792
AA875253					stearoyl-CoA desaturase 2	AA875269	3389.3	3690.1	1.4	1.08875
NM_031841	NP_114029	XP_005718	XM_005718	83	thioredoxin-related protein; Ttp related to Drosophila groucho gene	AA875390	29994.5	40736.4	1.4	1.35813
AF140358	AAK98516	NP_004777	NM_004786	97n		AA875427	2862.4	3994.5	1.4	1.39551
NM_019220	NP_062093	NP_001121	NM_001130	80	M.musculus gMCK2alphaC pseudogene		1054.6	568	1.4	0.53859
AA875506					Mus musculus 11 BAC RP23-362J7 RNA binding motif protein, X chromosome		1161.9	1857.9	1.4	1.59902
AA875633		S43202					29161.2	39715.3	1.4	1.36192
NM_011262	NP_035382			61		AA875654	705.9	962.5	1.4	1.36351

**Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation**

AA891631							EST (not recognized)		2002	2724.8	1.4	1.36104
AA891677							EST (not recognized)		991.1	1389.2	1.4	1.40167
AA891724						89n	KIAA0869 protein	XM_046863	1061.5	772.7	1.4	0.72793
AA891734							EST(not recognised)		2447.6	4573.6	1.4	1.86861
AF212319	AA891734	XP_057638	XP_057638			94	NADP+-specific isocitrate dehydrogenase	XM_057638	3048.4	4397.2	1.4	1.44246
AF102149							Rattus norvegicus clone ZG52 mRNA sequence.	AA891785				
NM_022948	NP_075237	NP_112233	NP_112233			88	tricarboxylate carrier-like protein (Loc65042).	NM_030971	1914.1	2673.3	1.4	1.39664
AA891891		XP_029081	XP_029081			90n	Topoisomerase-related function protein 4-1	XM_029081	3530.1	4795.4	1.4	1.35843
AA891902									777.7	1575.1	1.4	2.02533
AA891950							Mus musculus, clone IMAGE:3585632		1511.3	2052.6	1.4	1.35817
AA892154	NP_037282	NP_006445	NP_006445			50	Mus musculus adult male stomach cDNA, RIKEN		1141.6	1826.2	1.4	1.59968
AA892179		XP_040360	XP_040360				Mad4 homolog (human)	NM_006454	816.8	1105.9	1.4	1.35427
NM_009367	NP_033383					89	Similar to chromosome 8 open reading frame 5	XM_040360	1903.1	1518.2	1.4	0.78775
NM_017470	NP_059498	NP_005731	NP_005731			93n	testis expressed gene 261		1572.2	2216.4	1.4	1.40974
AA892378		XP_051242	XP_051242			91n	dynein, axon, light chain 4	NM_005740	1478.4	2123.8	1.4	1.43655
AA892414	AAF14345	AAD38322	AAD38322			89n	EST6, Highly similar to AF151893 1 Cg135 protein [H.sapiens]	XM_051242	2138	2920.9	1.4	1.36618
AA892417						85n	Sodium bicarbonate cotransporter 3 (SLC4A7)	AF047033	2601	3638.1	1.4	1.39873
AB019577	BAA77341	NP_055498	NP_055498			81	Mus musculus adult male tongue cDNA, RIKEN		1483.7	1620.7	1.4	1.09234
AA892520							UNC-51-like kinase (ULK) 2	NM_014683	416	591.6	1.4	1.42212
AA892668							EST(not recognised)	AA892500	2758.2	3788.6	1.4	1.3772
AA892942							EST(not recognised)		2071.3	3629.3	1.4	1.75218
AA892959							EST (not recognized)		857	1214.2	1.4	1.4168
AA892989							Mus musculus 10 days embryo cDNA, RIKEN		663.5	1491.8	1.4	2.24838
AA893002							EST(not recognised)		1739.2	2435.3	1.4	1.40024
AA893032							EST (not recognized)		3711.8	3440	1.4	0.92677
AA893040							EST (not recognized)		1684.9	2348.2	1.4	1.39367
AA893043							EST (not recognized)		473.3	662.2	1.4	1.39911
AF133083							EST(not recognised)		460.3	627.1	1.4	1.35237
							Mus musculus X chrom	AA893127	5228.1	7543.5	1.4	1.44288

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AA893164	XP_017866	XM_017866	84n	Mus musculus, clone IMAGE:3709937 Homo sapiens hypothetical protein FLJ12528 Human DNA sequence from clone RP11-66K20	3695	5254.4	1.4	1.42203
AA893183				EST(not recognised)	1043.1	1504.5	1.4	1.44234
AA893217				EST(not recognised)	5948.9	8398.5	1.4	1.41177
AA893320				Mus musculus RIKEN cDNA 2310004K06	1919.6	2702.4	1.4	1.40779
AA893454				Mouse RIKEN full-length cDNA FLJ20789 fls, clone COL01731	1657.3	2363.2	1.4	1.42593
AA893581				Homo sapiens cDNA FLJ20789 fls, clone COL01731	6525.6	9347.2	1.4	1.43239
AA893596	AAH03542	BC003542	93(mus)	Mouse RIKEN full-length cDNA FLJ20789 fls, clone COL01731	723.4	506.4	1.4	0.70003
AA893659				Mouse RIKEN full-length cDNA FLJ20789 fls, clone COL01731	1576	2264.6	1.4	1.43693
NIM_008183	NP_005859	NM_005868	87n	Mouse RIKEN full-length cDNA FLJ20789 fls, clone COL01731	481.4	648.9	1.4	1.40637
AA893684				Homo sapiens BAC clone RP11-334F17	836	1165.9	1.4	1.39129
AA893683				Mus musculus, clone IMAGE:3708747	2571.5	3589.4	1.4	1.38584
NIM_018436	NP_061928	NM_019056	79	neuronal protein 15.6 (Np15.6-pending capping protein (actin filament), gelsolin-like	2481.3	3351	1.4	1.3505
NIM_007599	NP_001738	NM_001747	89	Mus musculus, Similar to CG6769 gene product, clone MGC:6955	3906.2	5350.2	1.4	1.36967
AA894086				Mus musculus 10 days embryo cDNA, RIKEN	679.9	939.9	1.4	1.38241
AA894165				Rat electron transfer flavoprotein (ETF) alpha-subunit DNA, 3' end	821.2	1183.8	1.4	1.44155
AA894174	P13804	J04058	93	EST (not recognized)	2002	2739.3	1.4	1.36828
AA894189				Homo sapiens KIAA1086 protein (KIAA1086), mRNA	1167.3	1279.5	1.4	1.09812
AA894207	XP_043679	XM_043679	94n	rhoB gene (Arnb),	10188.8	14478.1	1.4	1.42378
NIM_022542	NP_004031	NM_004040	93n	Peripheral myelin protein	4065.2	5846.6	1.4	1.38901
AA824909	JN0503	D11428	86	sodium channel	5420.5	7438.8	1.4	1.37236
Y09164	XP_008249	XM_008249	42	linker of T-cell receptor pathways	11864.2	16608.9	1.4	1.4
NIM_031621	NP_007014	XM_007014	71	dis-Golgi matrix protein GM130	1924.3	2859.1	1.4	1.38185
NIM_022566	XP_005661	XM_005661	60	transferrin	3370.4	4842.4	1.4	1.3774
X14876	NP_000362	NM_000371	76	microsomal glutathione S-transferase 2 (MGST2),	538.6	745.4	1.4	1.38386
AA855983	NP_002404	NM_002413	81n		5283.7	7224.5	1.4	1.37251

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AA963857	P13265	P51654	U50410	94	Glypican 3		619.2	887.1	1.4	1.40036
NM_017182	NP_058878	NP_004884	NM_004893	89	H2A histone family, member Y (H2afy)	AA965281	211.2	821.3	1.4	3.88673
NM_031731	NP_113919	XP_045058	XM_045058	84	alcohol dehydrogenase family 3, subfamily A2 [	AA986484	1739.6	2403.1	1.4	1.38141
NM_016899	NP_058695	NP_000769	NM_000778	74	Cytochrome P450,	AA987806	2222	3207.4	1.4	1.44347
U25684	AAB37101	NP_068832	NM_021992	60	thymosin beta-like protein	AA987865	557.6	931.6	1.4	1.67073
AB000491	BAA22933	NP_002786	NM_002805	92	proteasome p45/SUG		6617	9023.1	1.4	1.36362
AB000517	BAA22085	XP_003308	XM_003308	86	CDP-diacylglycerol synthase		1827.5	2638.4	1.4	1.44372
AB001347	BAA32473	XP_006487	XM_006487	86	brain beta 3 spectrin		7287.8	10367.5	1.4	1.4285
AB003515	BAA19876	NP_009216	XM_007285	100	GEF-2		10836	16139.9	1.4	1.48947
AB003726	BAA21671	NP_004263	NM_004272	99	Ves1		578.9	991.5	1.4	1.71273
AB003992	BAA20152	NP_003072	NM_003081	100	SNAP-25B		10026.5	16742.5	1.4	1.68982
AB004276	BAA20359	NP_061743	NM_018920	66	protocadherin 4		953.7	1309	1.4	1.37255
AB005549	BAA34216	XP_005888	XM_005888	76	atypical PKC specific binding protein		544.3	750.5	1.4	1.37884
AB006914	BAA22191	NP_004231	NM_004240	78	salt-tolerant protein		1555.4	2446.2	1.4	1.57271
AB009899	BAA28787	XP_003308	XM_003308	88	CDP-diacylglycerol synthase, (18 on d.s.)		3410.4	4106.2	1.4	1.20402
AB010467	BAA28955	AAD01430	AF008970		Rattus norvegicus mRNA for multidrug resistance-associated protein (MRP)-like protein-2 (MLP-2), complete cds		484.8	681.2	1.4	1.40512
AB012759	BAA25544	NP_002717	NM_002726	78	prolyl endopeptidase		2221.7	3015.8	1.4	1.36743
AB012933	O88813	JX0202	D10040	95	Acyl-CoA synthetase 5		2468	3484.1	1.4	1.41171
AB013454	R5RT17	R5HU22	X53777	62	ASI mRNA for mammalian equivalent of bacterial large ribosomal subunit protein L22		1063.8	2016.5	1.4	1.89556
AB015191	BAA32440	CAB08722	Z97026	99	Rh blood group protein		649.4	2558.5	1.4	3.93979
AB017655	BAA36838	NP_000730	NM_000739	52	Muscarinic receptor m2		1339.1	1871.8	1.4	1.3978
AB017912	BAA33453	NP_005892	NM_005901	90	Smad2 protein		2240	3049	1.4	1.36116
AF016387	AAD01591	NP_008848	NM_006917	89	retinoid X receptor gamma (RXRgamma)		2638.2	3702.6	1.4	1.40348
AF019974	AAB72089	XP_045588	XM_045588	97	chromogranin B		3849.5	4455	1.4	1.22072
AF022083	AAB82550	AAC78784	AF053356	50	guanine nucleotide binding protein beta 1 subunit		1130.8	1825.9	1.4	1.6147
AF022819	AAD09336	XP_001674	XM_001674	100	Rattus norvegicus putative potassium channel TWIK mRNA		4271.6	4342.1	1.4	1.0165
AF026504	AAB81526	AAC83179	AC004974	76	SPA-1 like protein p1294	AI237576	534.2	770.5	1.4	1.44234
				81						

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

AF034582	AAD01990	BAA74928	AB020712	79	Vesicle associated protein (VAP)	2517.4	3478.9	1.4	1.38194
AF034897	AAC17221	NP_039228	NM_013941	57	olfactory receptor-like protein	506.9	714.7	1.4	1.40994
AF034899	JC5836	Q15062	L35475	44	9)	678.5	689.8	1.4	1.01665
AF036761	AAB88865	AAD29870	AF087614	92	stearyl-CoA desaturase 2	17828	25494.1	1.4	1.44623
AF044058	AAD13349	AAC36704	AF077953	89	androgen receptor interacting protein; ARIP	1916.1	2614.5	1.4	1.3652
AF053312	P97884	P78556	U77035	61	Small inducible cytokine subfamily A20	465.4	655.9	1.4	1.40933
AF061242	Q9R1B1	Q9Y5J6	AF152355	92	Fracture callus 1	963.4	1349.7	1.4	1.40098
AF074608	AAC33331	XP_011833	no human	72	MHC class I antigen	6551.3	11434	1.4	1.7453
AF080435	AAC77825	XP_011833	XM_011833	49	phosducin-like protein	1641.3	2874.2	1.4	1.8121
AF091563	AAC84586	AAG45205	AF321237	60	Isolate QIL-LD1 olfactory receptor mRNA	1138.1	1568	1.4	1.37773
AF091572	AAC64593	CAA46127	X64984	100	olfactory receptor	1524.5	2081.6	1.4	1.36543
AF091834	AAC61595	NP_006169	NM_006178	52	N-ethylmaleimide sensitive factor NSF	2468.9	3525.3	1.4	1.42788
AF093569	AAD03032	CAB83215	AJ251760	85n	XLas protein	1388.7	1944.8	1.4	1.40045
AF095576	AAC64408	BAA22514	AB000520	87	APS protein	1298.6	1884.4	1.4	1.43781
AF095927	AAC97497	NP_110395	NM_030768	98	Protein phosphatase 2C	2277.7	3138.7	1.4	1.37801
AF096291	1AF3	Q92843	U59747	75	APOPTOSIS REGULATOR BCL-W	1988.2	2694.5	1.4	1.36802
AF104362	AAD04570	NP_005005	NM_005014	88	osteoadherin	917.1	1283.5	1.4	1.39852
M26594	AAA41563	AAB01380	L34035	90	cytosolic malic enzyme	2527.9	3554.4	1.4	1.40607
NM_019275	NP_082148	NP_005350	NM_005359	91	MAD homolog 4	968.6	1382.1	1.4	1.4269
NM_012839	NP_036971	NP_061820	NM_018947	66	Cytochrome C, expressed in somatic tissues	1585.2	2249	1.4	1.41875
NM_022519	NP_071984	NM_000295	NP_000286	89	alpha-1-protease inhibitor	1331.3	870.9	1.4	0.65417
NM_031151	NP_112413	NP_005909	NM_005918	77	malate dehydrogenase mitochondrial	17460.9	24655.1	1.4	1.41202
NM_031624	NP_113812	NP_001542	NM_001551	80	immunoglobulin (CD79A) binding protein 1	1128	1532.1	1.4	1.36066
NM_020075	NP_064460	NP_001960	NM_001969	52	eukaryotic initiation factor 5 (eIF-5)	4609.9	8446.5	1.4	1.3984
NM_022713	NP_073204	NP_003232	NM_003241	93	dorsal protein 1	533.1	759.9	1.4	1.42544
NM_022585	NP_072107	XP_005226	XM_005226	50	ornithine decarboxylase antizyme inhibitor	474.3	914	1.4	1.92705
U89744	AAB49894	XP_003025	XM_003025	98	putative cell surface antigen	241.9	4190.2	1.4	17.322
A1044423	P41276	P40616	L28997	48	ADP-ribosylation factor-like 1	4188	3244.2	1.4	0.77464
AF144731	AAD55973	NP_073739	NM_022828	100	putative splicing factor YT521-B	638.3	865.7	1.4	1.35828
NM_030980	NP_112252	NP_000524	NM_000533		proteolipid protein	18303.8	24903.5	1.4	1.36056

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AI070521	P18395	BAA74908	AB020692	98	Rat unr mRNA for unr protein with unknown function	AI073056	7184.2	9859.6	1.4	1.37623
M75146		XP_056547	XM_056547	99n	kinesin light chain A		33123.6	45656.3	1.4	1.37836
AI073204	P42655	I38947	U20972							
Y17323				98	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activator protein, epsilon polypeptide					
NM_031984	NP_114190	NP_004920	NM_004929		CDK109	AI102044	4345.6	7317.8	1.4	1.68396
J01436	AAA99907		no human	91	cerebellar Ca-binding protein, spot 35 protein; calbindin D28	AI102839	27614.4	37985.9	1.4	1.37558
AI103874					cytochrome B gene	AI103396	1155.2	1984.9	1.4	1.70092
AI104389	1TOH	I55282	M20912	88	Mus musculus 6 days neonate head cDNA, RIKEN		164178	235960.7	1.4	1.43722
AI104544	R4RT17	R4HU17	M13841	87	Tyrosine hydroxylase		2273	3115.8	1.4	1.37079
NM_022936	NP_075225	XP_005114	XM_005114	71	Ribosomal protein S17	AI104882	1179.9	1701.9	1.4	1.44241
AI105463					cytosolic epoxide hydrolase		13022.3	18005.7	1.4	1.38268
					Mus musculus adult male kidney cDNA, RIKEN		3613	5149.4	1.4	1.42524
AI112237							1733.5	2436.5	1.4	1.40554
NM_012637	NP_036769	NP_002818	NM_002827	81	Mus musculus ES cells cDNA, RIKEN		11011.2	14890.2	1.4	1.35228
NM_017172	NP_058868	NP_004917	NM_004926	78	protein-tyrosine phosphatase	AI112391	2560.2	3597.8	1.4	1.40528
M69056	AAA41176	NP_002019	NM_002028		butyrate response factor 1	AI112516	4385.4	6030.9	1.4	1.37522
M36589	AAA41697	XP_002122	XM_002122	84	farnesyl-protein transferase beta-subunit	AI136396	20	1391.8	1.4	69.59
AI170379		CAC38839	AJ303079	86	beta-nerve growth factor	AI137043	884.4	1213.2	1.4	1.37178
AI171268				89n	AKAP-2		1834.2	2546.9	1.4	1.38866
					Mus musculus adult male kidney cDNA, RIKEN		5236.5	7290.7	1.4	1.39228
AB03713	BAA85826	XP_050665	no human	90	cytochrome b	AI171355	73530.7	102008.7	1.4	1.38729
NM_017005	NP_068701		XM_050665		fumarate hydratase	AI171734	862.1	1168.6	1.4	1.35553
AI175208					Mus musculus 10, 11 days embryo cDNA, RIKEN		1077.1	1486.7	1.4	1.38028
X17215	CAA35084	NP_002219	NM_002228	78	c-Jun protein (AA 1-334)	AI175959	2490.2	3506.2	1.4	1.408
NM_009861	NP_033991	NP_001782	NM_001791	100	cell division cycle 42 homolog	AI176308	7113.2	9881.9	1.4	1.38923
AI176422		NP_004444	NM_004453		ESTs, Highly similar to 2006241A flavoprotein ubiquinone oxidoreductase [H.sapiens]					
				92	Rat 32S pre-rRNA 5'-terminal part with 28S rRNA sequence		1239.1	1789.3	1.4	1.44403
X00722						AI176480	4677.5	7730.4	1.4	1.65268



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NM_012505	NP_036637	BAA34498	AB018321	99	ATPase, Na+K+ transporting, alpha 2 polypeptide	A1177026	3806.4	5488.9	1.4	1.44202
NM_020075	NP_084460	NP_001960	NM_001869	80	eukaryotic initiation factor 5 (eIF-5)	A1177886	1464.8	1893	1.4	1.3606
A1178204					EST (not recognized)		1091.8	1630.8	1.4	1.40209
NM_031643	NP_113831	NP_002746	NM_002755	80	mitogen activated protein kinase kinase 2	A1178835	980.2	1357.2	1.4	1.38462
A1178921	P35559	P14735	M21188	94	Insulin degrading enzyme		967.3	1627.6	1.4	1.68262
NM_031094	NP_112356	CAA53661	X78061	81	retinoblastoma-like 2 (p130)	A1227715	1690.3	2338.8	1.4	1.38366
A1230284					Human DNA sequences from clone 106F14 on chromosome 6p21.2-21.3					
NM_010241	NP_034371	NP_071921	NM_022476	96	fused toes	A1230602	870.6	1252.6	1.4	1.43878
A1232321					Mus musculus 13 days embryo liver cDNA, RIKEN		4003.1	4976.6	1.4	1.24319
X77853	CAA54918	NP_001010	NM_001019	100	ribosomal protein S15a	A1235364	4300.9	5972.8	1.4	1.38873
U30789					Rattus norvegicus clone N27 mRNA	A1237654	18522.2	28991	1.4	1.5652
NM_012588	NP_036730	NP_000228	NM_000237	89	lipoprotein lipase	A1237731	2215.6	3101.5	1.4	1.38885
A1638969					EST(not recognised)		706	957	1.4	1.35552
A1639032					EST(not recognised)		620.2	887.1	1.4	1.43035
A1639048					EST(not recognised)		672.3	955.1	1.4	1.42065
					Human chromosome 14 DNA sequence BAC C-3028N15 of library CalTech-D					
A1639058					Mus musculus adult male stomach cDNA, RIKEN		470.5	646.6	1.4	1.37428
A1639076					EST (not recognized)		21805.9	30137.6	1.4	1.36208
A1639101							355400.3	507743.3	1.4	1.42865
A1639114					Rattus norvegicus clone RP31-162L19		1130.6	983.8	1.4	0.87016
A1639120					EST(not recognised)		616.4	876.1	1.4	1.42132
NM_007391	NP_031417	XP_006244	XM_006244	71	EST (not recognized)		10972.5	15549.4	1.4	1.41712
A1639203					acrosomal vesicle protein 1 (Acv1)	A1639153	2092.3	2982	1.4	1.42523
A1639247		AAG49397	AY009106		EST(not recognised)		1231.8	1983.3	1.4	1.59385
					EST, Moderately similar to T17296					
					hypothetical protein DKFZp434I092.1 [H.sapiens]					
AJ298016	CAC10568	NP_065660	NM_020629	80	receptor tyrosine kinase	A1639318	2704.5	4663.8	1.4	1.72446
AJ131777	CAB66139	NP_008739	NM_008748	83	src-like adaptor protein	A1639336	4404.7	6215.1	1.4	1.41102
A1639343				79	EST (not recognized)		1153.4	1578.7	1.4	1.36874
AF128241	AAD24799	NP_002660	NM_002669	96	pleiotropic regulator 1	A1639353	298	535.9	1.4	1.79832
A1639394					EST(not recognised)		1844	2726.9	1.4	1.40273
							444.9	682.2	1.4	1.53398

**Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation**

NM_017131	NP_058827	XP_001278	XM_001278	85n	Al639422	3112.3	4343.8	1.4	1.39569
Al639489					Homo sapiens caldesmon 1 (fast-twitch, skeletal muscle)				
Al639516					Mus musculus 11 days embryo cDNA, RIKEN	986.6	1312.1	1.4	1.35744
Al639524					EST (not recognized)	2708.7	3761.8	1.4	1.38878
AJ005046	CAA06313	NP_003828	NM_003837		EST (not recognized)	1058.1	1502.6	1.4	1.42008
AJ008971	CAA07360	NP_001339	NM_001348	95	Rattus norvegicus mRNA for muscle fructose-1,6-bisphosphatase	1520.1	2114.1	1.4	1.39076
D00729	BAA00629	XP_028848	XM_028848	72	DAP-III kinase	3269.1	4511	1.4	1.37989
D10392	1HVV	Q16623	L37782	53	Delta3, delta2-enoil-CoA isomerase; SEVERAL EXONS; ONLY 1 & 2 LISTED ON THIS SHEET	1053.9	954.6	1.4	0.90578
D10655	BAA01504	P10515	Y00978	97	Syntaxin A	2866.7	4227.8	1.4	1.42509
D10755	BAA01587	XP_046642	XM_046642	79	Dihydrodipolamide acetyltransferase	5595.8	7878.2	1.4	1.42575
D10756	BAA01588	XP_042737	XM_042737	100	proteasome subunit R-IOTA	12167.3	16446.5	1.4	1.3517
D10757	BAA01589	NP_002781	NM_002800	98	proteasome subunit R-ZETA	3615.3	5690	1.4	1.57387
D10938	BAA01732	XP_006027	XM_006027	63	proteasome subunit R-RING12	407.6	567.9	1.4	1.39328
D13125	BAA02427	NP_057341	NM_016257	91	brain-derived neurotrophic factor (BDNF)	1155.4	1440.4	1.4	1.24667
D13556	BAA02754		No Human	98	neural vlsinin-like Ca2+-binding protein type 2	1723.9	2495.5	1.4	1.44759
D14048	BAA03136	AAH07850	BC007950		T cell receptor eta chain	1163.9	1599.1	1.4	1.37392
D26439	BAA05455	NP_001757	NM_001768	91	SP120	2882.7	4087.2	1.4	1.41784
D26564	BAA05618	NP_058022	NM_016742	61	CD1 antigen precursor	829.1	1289.4	1.4	1.39856
D30040	BAA06279	XP_015191	XM_015191	84	Rattus norvegicus mRNA, similar to cdc37	6693.3	9698.9	1.4	1.44805
D30735	BAA06399	CAB87993	AJ238317	98	RAC protein kinase alpha	5684.1	7764.5	1.4	1.366
D30739	BAA06401	NP_003397	NM_003406	85	augmenter of liver regeneration	717.6	1021	1.4	1.423
D42148	BAA07719	NP_000811	NM_000820	99	mitochondrial import stimulation factor (MSF) L subunit	13430.4	18133.8	1.4	1.35021
D43778	BAA07833	AAA05762	U15592	79	growth potentiating factor	4732.6	6507.4	1.4	1.37602
D45187	BAA08128	NP_001901	NM_001910	72	angiotensin II type 2 receptor	808.4	1297.8	1.4	1.60539
D49955	BAA08710	XP_003594	XM_003594	84	cathepsin E precursor	931.9	1318.5	1.4	1.41485
D50436	BAA08927	NP_004100	NM_004109	78	Rat mRNA for bone marrow stromal cell antigen 1 (BST-1)	1845.1	2761.7	1.4	1.48678
D50696	BAA09341	NP_002793	NM_002802	81	adrenodoxin	1347.3	2417.4	1.4	1.79426
D78591	BAA11427	NP_001321	NM_001330	82	proteasomal ATPase (S4)	6848.2	9786.2	1.4	1.43048
				73	cardiotrophin-1	2141.1	2975.1	1.4	1.38966

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D83948	g1514971	g1489167	D50912	92	S1-1 protein from liver	2535	2471.5	1.4	0.97495
D85189	g2392023	g3158351	AF030555	97	Acyl-CoA synthetase (36 on d.s.)	418.8	708.9	1.4	1.69269
D86557	BAA19880	NP_065172	NM_020439	98	Protein Kinase	1043.1	1488.5	1.4	1.427
D87840	BAA25260	XP_054716	XM_054716	54	Madcam 1	4245.9	5759.6	1.4	1.35651
D88586	P70709	P12724	X15161	55	Rat mRNA for eosinophil cationic protein	5534.2	7523.5	1.4	1.35946
D88672	g2723386	g2781436	AF035483	89	Phospholipase D	739	1056.3	1.4	1.42836
D89514	BAA22837	BAA11559	D82348	91	5-aminimidazole-4-carboxamide ribonucleotide formyltransferase/IMP cyclohydrolase	2210.1	3888.7	1.4	1.75951
D89730	O35568	NP_004098	NM_004105	91	EGF-CONTAINING FIBULIN-LIKE EXTRACELLULAR MATRIX PROTEIN 1 PRECURSOR (FIBULIN-3) (FIBL-3)	2898.6	4009.3	1.4	1.38318
D89983	BAA23594	XP_005226	XM_005226	93	(T16 PROTEIN)	3259.8	4567.3	1.4	1.4011
D90265	BAA14312	NP_002777	NM_002786	97	antizyme inhibitor	1817.8	3336.1	1.4	1.83524
NM_031154	NP_112416	NP_000839	NM_000848	84	proteasome subunit C2	4329.1	5994.2	1.4	1.38463
X13933	CAA32120	AAH08437	BC008437	99	glutathione S-transferase, mu type 3 (Yb3)	70790.7	89823.5	1.4	1.41012
NM_052809	NP_434896	NP_001792	NM_001801	92	calmodulin (pRCM1).	1550.7	2161.8	1.4	1.38515
D87671	BAA13432	NP_060816	NM_018448	94	cytosolic cysteine dioxygenase 1 (Cdo1),	2654.7	3758.5	1.4	1.41579
H31128					TIP120	2572.1	3648	1.4	1.4183
H31351					EST(not recognised)	1022	1420.7	1.4	1.38012
H31456					EST(not recognised)	3231.1	4533.7	1.4	1.40314
H31535					EST(not recognised)	4411.4	6152.3	1.4	1.39484
H31550					Mus musculus 10 days embryo cDNA, RIKEN	4781	6890.1	1.4	1.39931
J00713	AAA40893	AAH05279	BC005279	83	Homo sapiens BAC clone RP11-152F13	1887.2	1058.4	1.4	0.56083
J02962	AAA40828	AAA35607	M57710	83	carboxypeptidase a precursor	6708.6	11005.2	1.4	1.64095
J04629	AAA40782	XP_008232	XM_008232	97	IgE binding protein	1821.4	2633.6	1.4	1.44592
J05028	AAA40868	NP_001599	NM_001808	87	(Na <sup>+</sup> , K <sup>+</sup> )-ATPase-beta-2 subunit.	3860.1	6894.2	1.4	1.7342
J05035	AAA42102	NP_001038	NM_001047	63	Acyl Coenzyme A dehydrogenase, long chain	956.8	1371	1.4	1.4329
J05499	P28492	g4240165	AB020645	76	Steroid 5 alpha-reductase	756.7	1375	1.4	1.8171
K02816	AAA41758	NP_006704	NM_006713	66	L-glutamine amidohydrolase	9630.9	14225	1.4	1.44697
					pR-ET2 encoded oncodevelopmental protein (putative); putative.				

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

NM_031043 L02530	NP_112305 AAA41172	NP_004121 NP_001457	NM_004130 NM_001466	83	glycogenin [Drosophila polarity gene (fritzled) homologue]	L01793	7189.3	8611.9	1.4	1.19788
L02896 L07380	P35053 NP_036982	P35052 XP_030066	X54232 XM_030066	94 88	Glypican 1 Growth hormone-releasing factor receptor (16 on d.s.)		3282 8120.6	3736.4 11136.1	1.4 1.4	1.13489 1.37134
L12382 L13202	P16587 AAA41319	P16587 NP_036315	M33384 NM_012183	79 100	ADP-ribosylation factor 3 HNF-3/fork-head homolog-2 [Rattus norvegicus] Blink		3007.6 2763.6	4107.2 3824.4	1.4 1.4	1.36581 1.36385
L14002				100	Polymeric immunoglobulin receptor AATTAA-containing 3'UTR mRNA sequence		3557.5	4818.8	1.4	1.35455
L14482 L14463	AAC37639 AAC37640	AAC72103 XP_042357	AC005844 XM_042357	80 79	R-esp1 transducin		1208.4 13161.7	1694.6 17785.5	1.4 1.4	1.40468 1.35154
L18889 L19699	AAA21015 P36860	NP_001737 P11234	NM_001746 M35416	81	calnexin Rat GTP-binding protein (ral B) mRNA, complete cds		1216.3 9848.5	1696 13812.1	1.4 1.4	1.39439 1.40248
L18998 L21711	AAA41644 AAA65445	I57945 XP_039888	L19999 XM_039888	95 74	Minoxidil sulfotransferase		1678.3 6172.8	2384.9 8657.8	1.4 1.4	1.42272 1.40257
L23148	P41135	JC5398	U57645	70	Galectin-5 Inhibitor of DNA binding 1, helix-loop- helix protein (splice variation)		634.8	1845	1.4	2.90843
L24776	OKRTCB	OKHUCB	M34181	90			1818.2	2597.6	1.4	1.42867
L26268 AF390546	AAA85779 AAK73355	NP_001722 XP_047516	NM_001731 XM_047516	91 99	Tropomyosin non-muscle isoform NM3 (TPN-gamma) mRNA, complete cds BTG1; B cell translocation gene		2548.9 2944.8	3473.6 4121.7	1.4 1.4	1.36278 1.39985
L27124 L27653	AAA21818 A58493	AAL16441 P10586	AY049784 Y00815	78 85	gut-enriched kruppel-like factor NRD convertase	L26282	962.2 1848.4	1393.3 2301.4	1.4 1.4	1.44804 1.38614
L28573	I59558	1707305A	M65105	98	POU domain, class 3, transcription factor 2		868.9	779.4	1.4	0.897
L33869 L38483	AAA40917 AAB06509	NP_000087 NP_002217	NM_000098 NM_002226	88 82	Solute carrier family 6 (neurotransmitter transporter, not adrenalin), member 2 Ceruloplasmin		1776.7 1839.2	2453.1 2507.9	1.4 1.4	1.38071 1.36358
L39018 M13979	AAC42059 AAA41248	XP_008249 XP_046330	XM_008249 XM_046330	54 63	Jagged 1 Sodium channel protein 6		905 1359.2	1227 1932.2	1.4 1.4	1.3558 1.42157
M14656 M15474	AAA41762 AAA21801	XP_011125 NP_000357	XM_011125 NM_000368	91 51	glucose-transporter protein osteopontin		2408.8 23836	4866 32421.6	1.4 1.4	2.02009 1.36019
				81	Alpha-tropomyosin gene		7266.7	10892.2	1.4	1.48892

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M17960	AAA40988	NP_008822	NM_006891	76	Insulin-like growth factor II (IGFII) Rat gamma-F-crystallin (gamma 4-1) gene, complete cds	4025.6	5511.7	1.4	1.36916
M19357	AAA41850		no human		proline-rich protein	1039.3	1603.1	1.4	1.44626
M20721	AAA88512	NP_000273	NM_000282	89	alpha-proponyl-CoA carboxylase	1297.8	1847.7	1.4	1.42372
M22631	AAA79025	NP_002855	NM_002864	60	alpha-1-inhibitor III.	839.3	1146.1	1.4	1.36554
M22983	AAA40759	NP_000035	NM_000044	75	androgen receptor	932.6	1325.4	1.4	1.42119
M23284	AAA41566	NP_000889	NM_000898	83	monoamine oxidase B.	952.3	1368.3	1.4	1.43684
M23601	AAA40718	P00352	M31984		Aldehyde dehydrogenase mRNA, complete cds	3465.1	4844.6	1.4	1.39811
M23995	1SFCA	P19065	AF135372	78	Vesicle-associated membrane protein (synaptobrevin 2)	4246.9	5755.3	1.4	1.35518
M24104				98	Acc # not recognised	12034.5	16919.7	1.4	1.40593
M24604	AAA41828	AAC00024	U53707	96	neuron-specific protein PEP-19.	2077.1	2864.2	1.4	1.37894
M24852	AAA41846	AAA03589	L20966	96	cAMP phosphodiesterase	13735.2	19867.3	1.4	1.44645
M25350	AAA41888	NP_000524	NM_000533	100	lipophilin	546.2	749.4	1.4	1.37202
M25888	AAA42350	XP_001799	XM_001799	84	epoxide hydrolase	11803.8	17104.3	1.4	1.44805
M26125	AAA41882	XP_008249	XM_008249	83	voltage-sensitive sodium channel alpha subunit.	3899.3	5401.4	1.4	1.38522
M26686	P22062	P22061	M93008	83	Protein-L-isocysteine (D-aspartate) O- methyltransferase	503.2	681.2	1.4	1.35374
M27293	AAA41384	NP_000866	NM_000875	95	Insulin-like growth factor-I receptor (IGF- I)	4632.1	6554.6	1.4	1.41504
M28837	AAA40841		no human	94	alpha-2-u globulin	2433.3	3484.3	1.4	1.43182
M27812	AAA42145	XP_013120	XM_013120	64	Synapsin Ia mRNA	653.9	919	1.4	1.40541
M33025	AAA41810	NP_002815	NM_002824	88	parathymosin	3797.2	6451.3	1.4	1.68896
M33329	AAA42183	AAB23169	S43859		hydroxysteroid sulfotransferase a (STa), NADH-dehydrogenase (NDI) (att start codon).	4898.4	6813.4	1.4	1.39086
M35826	AAA68204		no human	59	Cathepsin H	652.9	1218.9	1.4	1.8669
M36135	KHRTH	KHHUH	X16832	82	nucleolin	97984.1	135553.8	1.4	1.38343
M55015	AAA41732	XP_048741	XM_048741	73	S6 kinase	3269.1	4448.2	1.4	1.36068
M57428	TVRTK8	P23443	M60724	99	histidase	8965.9	12292.1	1.4	1.37098
M58308	AAA63491	NP_002099	NM_002108	92	dihydropyridine-sensitive calcium channel alpha-1 subunit	1719.5	2450.6	1.4	1.42518
M59796	AAA85463	CAA84341	Z34810	85	60 kDa protein	948.5	1312.8	1.4	1.38408
M62763	AAA40622	XP_038856	XM_038856	84	aldolase C.	3584.9	6317.5	1.4	1.76225
M63656	AAA40717	NP_005156	NM_005165	96		2476.5	2982.8	1.4	1.20444
						26309.1	36943.5	1.4	1.40421

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M64301	B40033	Q16859	X80982	97	Mitogen-activated protein Kinase 6	2741.4	3119.6	1.4	1.13786
M64376	P23265	g3290001	AC005255	73	Rat olfactory protein	1080.5	1488.2	1.4	1.35882
M65149	AAA40813	NP_005188	NM_005195	81	CELF	1374.7	2363.8	1.4	1.7195
M74223	I56530	g5630085	XM_004826	86	VEGF nerve growth factor inducible	3085.9	4335.8	1.4	1.40504
M75153	AAA42012	NP_004654	NM_004663	100	RAB11a, member RAS oncogene family	2318.8	3157.6	1.4	1.36174
M80804	AAA73144	NP_000332	NM_000341	76	Rattus norvegicus unknown mRNA	7923.4	8842.1	1.4	1.11595
M81687	AAA41355	AAA52701	J04821	65	core protein (HSPG)	1069.5	1505.5	1.4	1.40767
M83186	AAB48069	AAD00355	U60458	64	microtubule-associated protein 1A	18338.6	24952.7	1.4	1.36067
M83561	AAA02874	AAA95961	U16125	97	Glutamate receptor, ionotropic, kainate	1350.2	1833.1	1.4	1.35765
M84210	AAA73182	XP_046408	XM_046408	66	voltage-activating K channel	89.5	2397.1	1.4	26.7832
M86341	Q02589	P54922	L13291	86	ESTs, Highly similar to ADP- RIBOSYLARGININE HYDROLASE [R.norvegicus]	1220	1667.3	1.4	1.36684
M86389	JN0924	HHU27	L39370	82	Heat shock 27 kDa protein (33 on d.s.)	26712.7	32880.7	1.4	1.23015
M86835	AAA42331	XP_003226	XM_003226	76	Rat vasoactive intestinal polypeptide receptor mRNA	1183.2	1638.1	1.4	1.38447
M88489	AAA41174	BAB18461	AB051390	91	f-spondin	459.8	1025.4	1.4	2.23107
M91599	AAA41157	CAA74200	Y13901	83	fibroblast growth factor receptor subtype 4 (FGFR4)	1116.3	1571.7	1.4	1.40795
M91599	AAA41157	CAA74200	Y13901	83	fibroblast growth factor receptor subtype 4 (FGFR4)	534.4	753.6	1.4	1.41018
M91652	AJRTQ	P15104	Y00387	92	Glutamine synthetase (glutamate- ammonia ligase) (39 on d.s.)	11786.1	16442.8	1.4	1.3951
M92074	AAA42294	NP_000354	NM_000363	75	troponin I	1779.8	2416.6	1.4	1.35779
M94537	AAA16530	NP_002881	NM_002690	95	Cyclic nucleotide phosphodiesterase (CaM-PDE)	2207.9	3153.1	1.4	1.4281
S48798	AAB23819		no human	92	ND5	44259.7	60186	1.4	1.35984
S49760	JC6124	Q13574	U51477	92	Diacylglycerol kinase	1076.1	1496.6	1.4	1.39076
S58745	AAB20032	NP_003207	NM_003216	79	Thyrotroph embryonic factor-related zipper transcription factor	10480.6	13474.6	1.4	1.28567
S59158	AAB26422	NP_004163	NM_004172	87	glutamate transporter, GluT-1	20	763.4	1.4	38.17
S59525	AAB26420	NP_000397	NM_000406	81	Gonadotropin-releasing hormone receptor	942.5	1282.3	1.4	1.36053
S63519	AAB27415		no human	91n	membrane protein-73; MP-73	2142.5	3074.3	1.4	1.43491
S63521		XP_044201	XM_044201		Glucose-regulated protein 78	677.6	971.6	1.4	1.43368

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S69316	AAB33049	XP_038637	XM_038637	92	Rattus sp. 3' UTR.	3580.8	5018.8	1.4	1.40111
S75280	AAB33865	NP_004320	NM_004329	95	pre-miHSP70	1304.1	1785	1.4	1.37643
S75359					Bone morphogenetic protein type IA receptor	628.8	1147.9	1.4	1.82264
S75435	AAB32520	CAA51165	X72500	48	TCR gamma C4L=T-cell receptor gamma chain	6223.5	8452.8	1.4	1.35821
S75997	AAB33384	NP_057637	NM_016553	74	Nucleoporin p82 homolog	2144.7	3017.5	1.4	1.40686
S76466	AAB33045	NP_004293	NM_004302	89	type I serine-threonine kinase receptor, B1	2332.6	3183.8	1.4	1.3692
S76779	AAC80703	AAB59397	M10065	73	apolipoprotein E; ApoE	147033.3	208752	1.4	1.41876
S78284	AAC80702	NP_001182	NM_001191	86	apoptosis inducer	2033.6	2821.3	1.4	1.43652
S82649	AAB46783	AAH08924	BC009924	86	Narpe=neuronal activity-regulated pentraxin	2014.5	4482	1.4	2.22487
S82911	AAB46839	NP_073207	NM_022716	95	rHox= protein	1323.8	2344.2	1.4	1.77081
U05989	AAA16492	AAC24947	U63808	78	Par-4 induced by effectors of apoptosis	986	1035.7	1.4	1.05041
U07201	P49088	g3341715	AC005326	93	Asparagine synthetase	2019.9	2781.5	1.4	1.37705
U08260	I78557	Q14957	L76224	57	Glutamate receptor, ionotropic, N-methyl D-aspartate 2D	1254.9	1711.5	1.4	1.38385
U09228	AAA21122	AAA60310	M74718	80	E-box binding factor mRNA	4014.2	4486	1.4	1.12002
U10995	AAAB3437	NP_005645	NM_005654	81	orphan receptor COUP-TFI	805.6	823	1.4	1.35898
U11071					Polyadenylate-binding protein-related protein mRNA, 3' end	318834.4	458301.1	1.4	1.43743
U11685	A56043	Q13133	U22662	91	Nuclear receptor subfamily 1, group H, member 3	1399.1	1934.2	1.4	1.38246
U11760	AAC52154	AAH12195	BC012195	92	transitional endoplasmic reticulum ATPase.	18125.9	24878.7	1.4	1.37255
U14398	:I59355	O00445	X98783	42	Synaptotagmin 4	2308.6	3131.3	1.4	1.35636
U14398	:I59355	O00445	X98783	42	Synaptotagmin 4	1883.2	2761.2	1.4	1.3923
U17254	JQ0623	P22736	D49728	91	Immediate early gene transcription factor NGFI-B	3789.3	5176.5	1.4	1.37333
U17565	AAC18424	NP_005906	NM_005915	91	Rattus norvegicus intestinal DNA replication protein mRNA, partial cds	852.3	720.4	1.4	0.84524
U17801	P54319	g5328666	AF145020	94	Phospholipase A-2-activating protein (plap)	582.1	832.8	1.4	1.43068
U19485	AAA87903	NP_008875	NM_006944	67	spp-24 precursor	1058.1	1586.4	1.4	1.49929
U19614	A56391	CAB43282	AL050126	85	Rattus norvegicus lamina-associated polypeptide 1C (LAP1C) mRNA, complete cds	604.2	1532.3	1.4	2.53608

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U20796	AA62508	BAA20088	D16815	86	nuclear receptor Rev-Erba-beta	944.4	1297.8	1.4	1.37421
U26310	AA67648	NP_072174	NM_022648	97	Tensin (Tns)	5159.6	7447.8	1.4	1.44348
U27201	AA75002	NP_000353	NM_000362	95	tissue inhibitor of metalloproteinase 3 (TIMP-3)	2348.3	4018.8	1.4	1.71137
U27319	AAC52945	NP_000179	NM_000188	100	Hexokinase 1	2908.6	6514.8	1.4	2.24138
U31463	AA74950	XP_044702	XM_044702	84	nonmuscle myosin heavy chain-A.	2871.9	4028.4	1.4	1.402
U31598	AA87845	CAA54170	X76775	75	MHC class II-like alpha chain.	3470.1	4784.2	1.4	1.37869
U31668	Q62814	I38878	U15642	95	Transcription factor E2F-5 mRNA, partial cds	310.9	557.7	1.4	1.79382
U32575	AAA85505	AAC09358	AF055006	93	Sec6	1457.9	2017.2	1.4	1.38363
U33553	AAC98537	AAC69612	AF059274	81	Neuroglycan C	1504.9	2105	1.4	1.39878
U34963	AAA77686	CAA80661	Z23115	88	Programmed cell death repressor BCL-X-Long mRNA	1970.3	2755.9	1.4	1.39872
U36444	AAC52912	NP_006192	NM_006201	92	PCTAIRE-1a protein kinase	2857.6	3991.5	1.4	1.3968
U36895	A57223	AAG10688	AF255342	27	Rattus norvegicus putative pheromone receptor VN3 mRNA, complete cds	705.3	1018.8	1.4	1.44449
U37058	AAA79881	XP_018475	XM_018475	87	neuromedin B receptor	571.2	587.4	1.4	1.02836
U37138	AAC53097	NP_000342	NM_000351	65	Steroid sulfatase (Sts)	1209.9	1668.8	1.4	1.37929
U38801	AAB00389	NP_002681	NM_002690	95	high molecular weight DNA polymerase beta	742.1	1458.7	1.4	1.96564
U39044	AAA89163	AAK37426	AF250307	85	Rattus norvegicus cytoplasmic dynein intermediate chain 2C mRNA, complete cds	1813.8	3370.6	1.4	1.85831
U39549	AAB17890	NP_004702	NM_004711	74	synaptogyrin	2962	2219.2	1.4	0.74922
U49056	AAC52857	XP_046313	XM_046313	50	trA1	1227.3	2670.7	1.4	2.17608
U49062	AAA91470	no human	no human		heat stable antigen CD24	5419	7443.5	1.4	1.37359
U49062	AAA91470	no human	no human		heat stable antigen CD24	2561.6	3518	1.4	1.37336
U50185	AAA92961	XP_028840	XM_028840	37	protein phosphatase 1	959.6	1321.3	1.4	1.37693
U50947	AAC52909	NP_003544	NM_003553	55	taste bud receptor protein TB 334.	1275.3	1811	1.4	1.42006
U51563	AAB17130	AAA62155	U19869	75	zinc finger homeodomain enhancer-binding protein-1	793.4	1144	1.4	1.4419
U54632	2018220A	P50550	X96427	99	Ubiquitin conjugating enzyme E2I	1307.2	1876.8	1.4	1.43574
U59241	AAC52855	A42336	M77018	96	E-Tropomodulin	2061.1	2987.9	1.4	1.43996
U60976	AAC98705	NP_005794	NM_005803	81	RAREG-2.1 [	4432.2	6352.3	1.4	1.43322
U61184	AAB03811	NP_001659	NM_001668	81	Aryl hydrocarbon receptor nuclear translocator 1	1261.7	1057.2	1.4	0.84481
U65007	PC4221	TVHUME	M15326	98	Met proto-oncogene	1018.7	1449.5	1.4	1.42289



Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

U72620	AAB67042	NP_008709	NM_008718	66	Lot1 (lost on transformation)	1749.1	2498.3	1.4	1.42833
U75210	AAC53160	NP_000229	NM_000238	85	potassium channel protein ERG	3084.2	2712.7	1.4	0.87955
U75405	CAB01633	AAB27856	S64596	84	Collagen alpha1	54964.4	76067.8	1.4	1.38395
U75917	AAB46880	NP_004060	NM_004069	96	clathrin-associated protein 17	7926.3	13762.8	1.4	1.73635
U78102	AAB36783	NP_000390	NM_000399	69	krox20	1716	2342	1.4	1.3648
U79568	AAB50403	XP_008249	XM_008249	63	Voltage-dependent sodium channel	1216.5	1887.7	1.4	1.38734
U82626	AAB66342	NP_005436	NM_005445	89	PN1 mRNA, partial cds	1790	2518.1	1.4	1.40676
U83896	AAB41444	NP_059431	NM_017457	99	Chondroilin sulfate proteoglycan 6	750.4	1057.3	1.4	1.40898
U88324	P54311	RGHUB1	X04526	100	yeast sec7B	17020.2	23189.1	1.4	1.36245
U90829	AAD09247	NP_003898	NM_003905	96	Guanine nucleotide-binding protein beta	1533.4	2216.4	1.4	1.44542
U91561	AAC23707	NP_060599	NM_018129	89	APP-binding protein 1	1052.3	1488.6	1.4	1.41462
X04229	CAA27811	XP_002155	XM_002155	79	pyridoxine 5'-phosphate oxidase	5089.3	6979	1.4	1.37131
X04979	CAA28650	NP_000032	NM_000041	72	glutathione S-transferase (GST) Y(b)	289050	395922.4	1.4	1.36974
X06769	CAA28937	CAA24756	V01512	77	subunit	2221.7	3190.1	1.4	1.43588
X06801	CAA29957	NP_001604	NM_001613	100	Apolipoprotein E	8166	11572.3	1.4	1.41713
X13016	CAA31438	XP_010594	XM_010594	50	c-fos protein	2764.2	3880	1.4	1.40366
X13722	CAA32001	AAF24515	AF217403	73	vaskular alpha-actin	2079.8	2888.2	1.4	1.38869
X14265	CAA32478	NP_001734	NM_001743	100	MRC OX-45 surface antigen	13711.7	18480	1.4	1.42086
X16555	CAA34556	NP_002756	NM_002765	99	Rat mRNA for LDL-receptor	609	833.3	1.4	1.36831
X16933	CAA34808	AAA35781	M94630	81	calmodulin III	1017.6	1438.1	1.4	1.41323
X53363	CAA37446	NP_004334	NM_004343	85	ribrose-phosphate pyrophosphokinase	4608	6412	1.4	1.3921
X54081	CAA38018	NP_001852	NM_001861	79	subunit II	25191.1	35621	1.4	1.41403
X54510	P21571	P18859	M37104	76	Rat mRNA for hnRNP C protein, partial	2848.4	4097.5	1.4	1.43853
X57514	CAA40739	AAD50273	AF165124	71	calreticulin	1254.4	1716.4	1.4	1.3683
X58865	CAA41674	NP_002618	NM_002627	68	cytochrome c oxidase subunit IV	2782.4	3855.5	1.4	1.38567
X59864	CAA42524		no human		R.norvegicus mRNA for coupling factor	4536.4	6175.6	1.4	1.36134
X60659	CAA43066		no human		6 of mitochondrial ATP synthase	1591.5	2227	1.4	1.39931
X61286	CAA43594		no human		complex	752.3	810.2	1.4	1.07696
X62841	CAA44645	CAC19684	AL137790	75	GABA(A) receptor gamma-1 subunit	20	1786.6	1.4	89.33
D90005					6-phosphofructokinase	891	1080	1.4	1.21212
					ASM15 gene				
					potential ligand binding protein				
					L1 retroposon, ORF2				
					voltage-gated potassium channel				
					Rat endogenous retroviral sequence, 5' and 3' LTR.				

Table 4. Polynucleotide Sequences Which are Upregulated Following Inflammation

X63854	CAA45339	XP_042526	XM_042526	70	Imp2a	1045.7	2884.8	1.4	2.57703
X55454	1908200A	Q82791	U47821	89	SC65 synaptonemal complex protein	1110.2	1025.5	1.4	0.92371
X65948	CAA46768	NP_001505	NM_001514	94	alpha initiation factor	1108.7	1804.4	1.4	1.44972
X66366	CAA47009	XP_012362	XM_012362	96	Gephyrin	1331.2	1885.3	1.4	1.40122
X67250	CAA47672	CAA35768	X51408	97	n-chimaerin	1749.8	4388.6	1.4	2.5072
X68101	CAA48220	XP_048926	XM_048926	87	trg	4248.1	5843.3	1.4	1.39805
X68199	CAA48287	NP_005370	NM_005379	59	myosin I heavy chain	886.5	1232.1	1.4	1.37434
X72757	CAA51286	XP_012265	XM_012265	79	R.norvegicus cox Via gene (liver)	1050.3	1468.5	1.4	1.39817
X74227	CAA52288	CAB65055	Y18024	68	IP3 3-kinase	1230.5	2109.2	1.4	1.7141
X83579	P51952	P50613	X79193	95	R.norvegicus mRNA for Cdk-activating kinase	484.8	681.8	1.4	1.37793
X85986	g1808814	P16152	J04056	80	Carbonyl reductase	779.8	1070.2	1.4	1.3724
Y00404	CAA68465	NP_000445	NM_000454	83	Copper-zinc-containing superoxide dismutase	25017.8	34713.1	1.4	1.38754
Y12178	CAA72878	No Human	No Human						
Y14635	CAA74979	NP_001085	NM_001084	76	R.norvegicus mRNA for bilirubinase	528.7	755.8	1.4	1.42954
Z11504	CAA77579	NP_000900	NM_000909	86	proton-gated cation channels modulatory subunit MDEG2	801.2	1235.4	1.4	1.37084
Z36944	S47327	I37242	X77197	98	NPY-1 receptor	1281.9	1843.7	1.4	1.43826
NIM_020616	NP_065641	NP_065683	NM_020842	98	Putative chloride channel (similar to Mm Clcn4-2)	1371.5	1881.9	1.4	1.37215
AA893607				70	Mus musculus predicted gene ICRFP703B1614Q5.6	1612.2	2301.8	1.4	1.42774
A1839471					Mus musculus, Similar to paxillin, clone IMAGE:3583842	1772.2	2543.7	1.4	1.43533
D10756	BAA01588	XP_042737	XM_042737	98	EST (not recognized)	553.2	761.8	1.4	1.37672
NIM_030656	NP_085914	NP_000021	NM_000030	76	proteasome subunit R-ZETA	2082.1	4435	1.4	2.11988
J01435					Serine-pyruvate aminotransferase	3276.1	4467.3	1.4	1.3636
NIM_031043	NP_112305	NP_004121	NM_004130	83	Rattus norvegicus mitochondrial genome	200479.5	289318	1.4	1.44313
					glycogenin	4181.2	4557.8	1.4	1.09007

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

Rat Gene Accession. No.	Rat Protein Access. No.	Human Protein Access. No.	Human Gene Access. No.	% homolog y	Identity	Former Identifier	Native Intensity	CFA Intensity	Affymetrix Ratio	Ratio Native/CFA
AJ251835					Mus musculus Kcnq1, Ltrpc5, Mash2, Tapa-1, Tesc4 and Tesc8 genes, alternative transcripts	AA799465				
S63521		XP_044201	XM_044201	91n	Glucose-regulated protein GRP78		1286.5	20	-75.6	64.825
AF255347		NP_115988	NM_032609		Rattus norvegicus cytochrome c oxidase subunit IV isoform 2	H31232	677.6	20	-24.5	33.88
NM_009394		XP_028894	XM_029894	71	Mus musculus troponin C, fast skeletal	A1639532	2815.1	20	-22.1	140.755
X00975		CAA25480	M21812	90n	MLC2 gene for muscle myosin light chain 2		4199.6	20	-20.2	209.98
NM_011602		NP_035732	AF113217	98	Mus musculus talin (Tln), mRNA	AA800962	4708.3	20	-18.9	235.415
S69383		NP_001131	NM_001140	86n	12-lipoxygenase		1187.5	20	-18.7	59.375
X00975		CAA25480	M21812	70	MLC2 gene for muscle myosin light chain 2		4484.6	20	-17.3	224.23
NM_016818		NP_056633	XM_017698	98	Mus musculus heparan sulfate 6-O-sulfotransferase 1	AA859740	4708.3	20	-18.9	235.415
H33003				84(mus)	EST (not recognized)		3308	88.9	-14.1	37.2103487
M99223		NP_005164	NM_005173		Calcium transporting ATPase mRNA		3013.4	20	-12.2	150.67
NM_017151		NP_001009	NM_001018	72	Ribosomal protein S15	AA882895	2466.7	174.2	-11.9	14.1601607
J04035		EAHU	M17282	69	Tropoelastin		1790.6	20	-11.4	89.53
X54886		NP_002220	NM_002229	65	R.norvegicus pJunB gene		4219.6	287.7	-11	15.7624206
AA875124				76	EST (not recognized)		1795.4	20	-10	88.77
NM_031841		AB032281	BAA93510	92	Stearyl-CoA desaturase 2	AF038761	2047.8	89.6	-8.9	20.560241
L00088		P05976	M20642		Rat fast myosin alkali light chains exon 6, common to both MLC1-f and MLC3-f		6600.8	1035.5	-8.4	6.37450507
AI230294		XP_004285	XM_004285	85	Peroxisome proliferative activated receptor, delta [Homo sapiens]		3003.4	108.2	-8.3	27.7578558
NM_031643		NP_002746	NM_002755	90n	Mitogen activated protein kinase kinase 2	A1178835	870.6	20	-8.2	43.53
S68736		XP_052590	XM_052590	90	Myosin heavy chain mRNA		980.2	20	-8	49.01
X63143		AAK39869	AF248634	80	neuroglycan		2188.2	339.3	-6.8	6.44916004
X16262		NP_002465	NM_002474	45	Myosin heavy chain 21		1813.4	20	-6.8	90.67
				88			1045.7	703	-6.7	1.48748222

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

J00692	CAA24534	AAF02694	AF182035	90	Skeletal muscle alpha-actin (original seq withdrawn)	8077	1012.8	-6.6	7.97492101
Z46614	CAA86587	XP_004987	XM_004987	96	Caveolin	1520.1	20	-6.8	76.005
M10140	AAA40935	XP_030987	XM_030987	89	Rat skeletal muscle creatine kinase composite mRNA	11220.8	1503.8	-6.5	7.46149754
S70803	AAB30888			No					
AI230260	P13862	P13862	X16312	Human	Clone p10.15 product	3038	488.6	-6.6	6.48314127
S76489	P52844	P49888	U08098	100	Casein kinase II beta subunit	4209	20	-6.3	210.45
U35244	AAC52985	NP_075067	NM_022916	71	Estrogen sulfotransferase	1933.2	20	-6.2	96.66
BC012862	AAH12862	XP_031260	XM_031260	93	vacuolar protein sorting homolog r-vps33a	1057.1	20	-5.9	52.855
					Mus musculus, Similar to DnaJ (Hsp40) homolog, subfamily B, member 1	AA945704			
L35571	A55198	I38522	U07659	92n	Insulin related protein 2	965.3	20	-5.8	48.265
X06564	CAA29809	AAB04558	U63041	72	140-kD NCAM polypeptide	852.9	20	-5.5	42.645
AF016047	AAC27973	NP_002564	NM_002573	89	platelet-activating factor acetylhydrolase alpha 1 subunit	1012.5	20	-5.5	50.625
AI639215	AAB17068	NP_005900	NM_005909	90	EST (not recognized)	4828.2	480.6	-5.3	10.4845853
U52950	AAA68286	NP_002630	NM_002539	89	Microtubule-associated protein 1B mRNA	808.7	803.1	-5.3	1.00697288
J04792	AAA68695	NP_056008	NM_015193	91	Ornithine decarboxylase (ODC) gene, complete cds	954.9	20	-5.3	47.745
U19866	AAA42189	NP_055663	NM_014848	92	Growth factor (Arc) mRNA	878.3	20	-5.1	43.915
L10362	AAA65445	XP_039888	XM_039888	90	Synaptic vesicle protein 2B (SV2B) mRNA	1072.4	103.2	-4.9	10.3914729
L21711	NP_032664	XP_039759	XM_039759	70	Galectin-5	1122.8	46	-4.8	24.4086957
NM_008638	AAA41157	NP_002002	NM_002011	84n	Myristoylated alanine rich protein kinase C substrate	634.8	20	-4.8	31.74
AA859870	JC5533	A48528	Z22555	83	EST (not recognized)	1089.8	70.1	-4.7	15.5463623
M91599					Rat fibroblast growth factor receptor subtype 4	1272.1	264.1	-4.6	4.81673608
D89655					CD38 antigen (collagen type I receptor, thrombospondin receptor)-like 1 (ecavanger receptor class B type 1)	534.4	54.4	-4.6	9.82352941
S80345	AAB35675	NP_000542	NM_000551	78	VHL= von Hippel-Lindau tumor suppressor gene homolog	854.5	20	-4.5	42.725
				87		844.1	20	-4.5	42.205





Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

M61875	AA53532	XP_030320	XM_030320	69	glycoprotein CD44	1360.1	20	-2.9	68.005
U19614	AA69914	XP_035429	XM_035429	51	Lamina-associated polypeptide 1C	604.2	897	-2.9	0.6735786
X16481	CAA34501			No					
AA892635	TVTRRH	TVHUC4	M31470	Human	Zinc(2+) binding protein	10017.3	6609.8	-2.9	1.51549948
AA892801	1606211A	EFHU2	M19897	99	Ras-like protein	808	283.7	-2.8	2.84807896
AA892916	BAB26060			99	Eukaryotic translation elongation factor 2	15102.3	4362.5	-2.8	3.46184527
NM_012774	NP_036906	NP_004475	NM_004484	88	Rat EST; mouse hypothetical protein from a RIKEN	658.3	171.1	-2.8	3.84745763
U17801	AAA78979	NP_004244	NM_004253	96	Glypican 3	619.2	111.2	-2.8	5.56634532
U83898	AAB41444	NP_059431	NM_017457	99	Phospholipase A-2-activating protein sec7B	582.1	83.3	-2.8	6.9879952
NM_030861	NP_110488	NP_002397	NM_002406	84	N-acetylglucosaminyltransferase I	750.4	20	-2.8	37.52
AF077354	AAC27937	AAA02807	L12723	90	Ischemia responsive 84 kDa protein LIMK-1	627	166.4	-2.7	4.00895141
D31873	BAA06672	NP_002305	NM_002314	95	Tyrosine kinase receptor (Ptk-3)	685.6	215.4	-2.7	3.18281551
L26525	AAA21089	XP_004559	XM_004559	80	dUTPase	1533.4	569.4	-2.7	2.69301019
U64030	AAC34734	NP_001939	NM_001948	87	EST (not recognised)	1533.1	568	-2.7	2.70868724
AA891802	NP_036831	NP_036460	NM_012328	86	Microvascular endothelial differentiation gene 1	1372.1	516.4	-2.7	2.6570488
NM_012699	AAC53061	NP_005931	NM_005940	80	Stromelysin 3	1163.8	454.7	-2.6	2.55948977
U46034	NP_034050	NP_005767	NM_005776	59(mus)	EST (not recognised)	628.1	114.4	-2.6	5.49038462
AA799718	AAF72982	NP_036475	NM_012343	88(mus)	Mus musculus ES cells cDNA, RIKEN	750.2	287.8	-2.6	2.6066713
NM_009920	AA866419	NP_036192	NM_012062	72	Mus musculus cornichon (Drosophila) like (Cril), mRNA	1751.2	705	-2.5	2.48387163
AF257157	AA871237	P27986	M61906	84	EST (not recognised)	836.3	107.2	-2.5	7.80130597
AF020212	BAA18932	CAA27243	X03541	66	Mus musculus nicotinamide nucleotide transhydrogenase	590.3	166.6	-2.5	3.56461353
D64045	X02412	NP_002084	XP_039078	85	DLP1 splice variant 2 (DLP1)	635.3	492.2	-2.5	1.29073547
X53428	Y07704	XP_039078	XM_039079	79	Phosphatidylinositol 3-kinase p85 alpha subunit	519.5	115.3	-2.5	4.50563747
AA799726	AA888971	NP_002084	XP_039078	79	Rat mRNA fragment for striated muscle alpha-tropomyosin	545.4	135.6	-2.5	4.02212389
		NP_002084	XP_039078	79	Glycogen synthase kinase 3 beta	6631.9	2668	-2.5	2.48571984
		NP_002084	XP_039078	79	Best5 protein	710.1	286.6	-2.5	2.47766923
		NP_002084	XP_039078	79	Mus musculus adult male tongue cDNA, RIKEN	1452.4	589.2	-2.5	2.46503734
		NP_002084	XP_039078	79		1313.3	550.6	-2.4	2.38521613





### Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

AI229291	CAA12179	CAA29604	X91648	92n	H.sapiens mRNA for pur alpha extended 3'untranslated region		9346	4130.6	-2.3	2.26262528
AJ224879	AAA98928	XP_042013	X08268	93	Collagen alpha 1 type II, partial CDS		3000.1	1303.9	-2.3	2.30086663
L38482	AAA41563	AAB01380	XM_042013	84	Serine protease		6167.4	2703.5	-2.3	2.28126603
M26594	AAA41563	NP_000775	L34035	88	malic enzyme	AI171506	1311.9	572	-2.3	2.29353147
M38566	AAB02287	NP_000775	NM_000784	70	Mitochondrial cytochrome P450		631.7	272	-2.3	2.32242647
S75730	AAB32826	NP_005054	NM_005063	62	Stearyl-CoA desaturase 2 SCD2 homolog		7441.7	2804.6	-2.3	2.65339086
U38253	AAC52788	NP_065098	NM_020365	87	Initiation factor eIF-2B gamma subunit		886.3	280.4	-2.3	3.05199725
U40001	AAC52771	XP_008882	XM_008882	87	Hormone-sensitive lipase testicular isoform		1327.1	20	-2.3	66.355
U95178	AAC33406	XP_003869	XM_003869	80	DOC-2 p58 isoform		793.7	20	-2.3	39.685
X39337	P26453	T17219	T17219	95	Stromal cell derived factor receptor 1		816.7	348.2	-2.3	2.3454911
NM_009460	NP_033486	XP_028029	XM_028029	93n	Mus musculus ubiquitin-like 1 (Ub1)	AA686579	914.2	410.7	-2.2	2.22595569
AA799406					EST(not recognised)		10860.4	4394.7	-2.2	2.47124946
AA800808					EST (not recognised)		1355.1	605.5	-2.2	2.23798514
X51974	CAA36236	NP_036254	NM_012122	89	R.norvegicus mRNA for pl 6.1 esterase	AA800861	3931.4	1752	-2.2	2.24394977
V01239	CAA24549			No	Rat gene for growth hormone (presomatotropin)	AA818403	617.2	286	-2.2	2.15804196
AA851054				Human	Mouse 4.5S RNA gene		1885	706.8	-2.2	2.66894963
NM_018749	NP_061219	AAH14912	BC014912	92n	Mus musculus eukaryotic translation Initiation factor 3, subunit 7	AA891553	2460.2	1131	-2.2	2.17524315
AA892801	1606211A	EFHU2	M19997	99	Eukaryotic translation elongation factor 2		12845	5990.2	-2.2	2.22224175
BC012408	AAH12408	NP_001737	NM_001746	87n	Mus musculus, Similar to calnexin glutathione-dependent	AA893328	822.7	379.9	-2.2	2.16556989
AB008807	BAA34217	NP_004823	NM_004832	71	dehydroascorbate reductase		4461.4	20	-2.2	223.07
AF033109	AAC70903	NP_004844	NM_004853	75	synaptin 8		537.2	245.3	-2.2	2.18997146
AF040750	AAC09272	NP_002073	NM_002082	88	G protein-coupled receptor kinase 6, splice variant C		10142.6	4563.5	-2.2	2.21285044
AI639102					EST(not recognised)		603	277.3	-2.2	2.17454021
U38253	AAC52788	NP_065098	NM_020365	87	Rattus norvegicus initiation factor eIF-2B gamma subunit	AI639441	2794.7	4316.9	-2.2	0.64738596

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

AI639489	AAG45887	XP_035115	XM_035115	85n	Homo sapiens polymerase (DNA directed), delta 3	966.6	440.8	-2.2	2.18283122
D78303	BAA23885	NP_073739	NM_022828	48	YT621 mRNA for RNA splicing-related protein	1112.9	498.3	-2.2	2.23339354
M64300	AAA41124	NP_002736	NM_002745	95	Extracellular signal-related kinase (ERK2)	1610	747.8	-2.2	2.15298208
M75168	AAA41787	NP_004631	NM_004640	98	liver nuclear protein p47	2980.4	1339.7	-2.2	2.22487717
X06701	CAA29887	NP_000509	NM_000518	78	Beta-globin gene	114847.8	51910.3	-2.2	2.21242798
S83279	AAB49519	NP_000405	NM_000414	83	HSD IV peroxisome proliferator-inducible gene	3057.3	969.2	-2.2	3.15445728
U54632	AAC98704	NP_003336	NM_003345	100	Rattus norvegicus ubiquitin-conjugating enzyme UbcE2A mRNA	6984.4	2544.8	-2.2	2.73671801
X78848	CAA55405	NP_000838	NM_000847	75	R. norvegicus (Fischer 344) GST Yc1 mRNA	2031.5	1222.7	-2.2	1.66148687
Y07704	CAA68871	XP_039079	XM_039079	79	Best5 protein	1778.5	795.9	-2.2	2.23457721
Z22812	CAA80465	NP_004624	NM_004633	58	Interleukin-1 receptor type 2	1340.8	608.8	-2.2	2.20236531
NM_031648	NP_113836	O00168	U72245	61	Phospholemman chloride channel	4441.8	1075.7	-2.1	4.12921818
L47235				No	Mus musculus ERCC2 gene	1344.2	2096.9	-2.1	0.64104154
AA800024				Human	EST (not recognized)	3834.4	3324.7	-2.1	1.15330707
AA800176					Homo sapiens hypothetical protein (LOC57019)	1914.8	916.7	-2.1	2.08879877
AA800671		XP_007857	XM_007857	84	Homo sapiens IQ motif containing GTPase activating protein 2	617.3	219.4	-2.1	2.8135825
AA818728		XP_017730	XM_017730	88	Homo sapiens peptidylprolyl isomerase (cyclophilin)-like 2	1127.2	537.8	-2.1	2.09594945
L08433		NP_055162	NM_014337	83n	c-HA-ras proto-oncogene mechanism sequence	2473.1	1288.8	-2.1	1.95224187
AA866358				No	EST (not recognized)	8750.6	4117.1	-2.1	2.12542809
AA866471				Human	Unnamed protein product	766.5	20	-2.1	38.325
U41803	AAH08539	BAB14219	AK022744	80(mus)	Rattus norvegicus hypertension-related protein	6881.8	3189.5	-2.1	2.09493651
AF234783	AAB87720	NP_055889	NM_014874	91	Mus musculus tescalcin mRNA	2094.7	1009.2	-2.1	2.07560444
BC009157	AAF40439	AAH15221	BC015221	90n	N-terminal acetyltransferase complex	1268.4	617.1	-2.1	2.05542052
	AAH09157	XP_008660	XM_008660	91n	Rattus norvegicus sodium-dependent multi-vitamin transporter (SMVT) mRNA, complete cds	1193.5	557.2	-2.1	2.1418598
AF026554	O70247	Q8Y289	AF059307	83					

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AF031843	AAB87065	NP_001289	NM_001288	90	Rattus norvegicus cyclic nucleotide-gated cation channel (CNG3) mRNA, partial cds	1646.7	791.6	-2.1	2.08021728
AF061945	AAD11811	XP_042803	XM_042803	79	Rattus norvegicus NMDA receptor-like long variant mRNA, partial cds	1031.9	495.8	-2.1	2.08128278
NM_031668	NP_113856	XP_027809	XM_027809	57	MYB binding protein	1040.8	493.2	-2.1	2.11030008
NM_012598	NP_036730	NP_000228	NM_000237	89	Lipoprotein lipase	708	338.3	-2.1	2.08690511
D10926	BAA01724				Tissue factor pathway inhibitor precursor	879.8	420.2	-2.1	2.09376487
H33459					Mus musculus adult male small intestine cDNA, RIKEN	627.4	305.3	-2.1	2.05502784
M11670	AAA40884	NP_001743	NM_001752	88	Rat liver catalase	1087.6	301.2	-2.1	3.61088977
M31038	AAA41608			No	Rat MHC class I non-RT1.A alpha-1-chain	624.9	278.6	-2.1	2.24300072
M77245	B32105	I54360	L13939	Human	Adaptor protein complex AP-1, beta 1 subunit	7630.3	3843.9	-2.1	2.0939927
U05013	P23711	I60119	D21243	86	Heme oxygenase-2 non-reducing isoform	1432.7	1981.7	-2.1	0.73033593
U57362	AAB07870	Human		89	Collagen XII alpha 1 (Col12a1) mRNA, partial cds	1095.2	623.6	-2.1	1.75625401
U76557	AAC53121	XP_047694	XM_047694	88	O-GlcNAc transferase	856.4	288.5	-2.1	2.96845754
X01785	CAA25925	NP_005935	NM_005944	69	Rat thymocyte mRNA for cell surface protein (MRC OX-2)	1240	581.7	-2.1	2.131683
NM_008193	NP_032219	XP_047651	XM_047651	83n	Mus musculus guanylate kinase 1	1320.4	672.3	-2	1.98400416
D49708	BAA08556	AAD19278	AF057159	75	RNA binding protein	1249.2	726.4	-2	1.71971366
NM_017248	NP_058944	XP_015755	XM_015755	99	Heterogeneous nuclear ribonucleoprotein A1	1234.3	782	-2	1.5584596
AB005540	BAA22332	NP_002586	NM_002595	97	PCTAIRE2	1032.3	523.9	-2	1.8704142
AF004017	AAC40034	AAG47773	AF310248		Solute carrier family 4, sodium bicarbonate cotransporter, member 4	2010.8	1028.5	-2	1.95318116
AF044681	AAC18987	XP_039018	XM_039018	92	Syntaxin 13	4772	2446.5	-2	1.95054159
M34464	AAA40683	NP_001625	NM_001634	87	S-adenosylmethionine decarboxylase	1410.5	927.9	-2	1.52009915
AI639043				93	EST (not recognized)	910.4	449.9	-2	2.02356079
AI639159					EST (not recognized)	4784.2	3320.2	-2	1.44394916
J05592	AAA41933	NP_006732	NM_006741	72	Phosphatase inhibitor-1 protein mRNA	1419.1	728.9	-2	1.95226303

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L18948	AAA18214	NP_002956	NM_002965	64	Intracellular calcium-binding protein (MRP14)	1508.3	631.9	-2	2.38851084
U18314	AAC52209	AAB60330	U09087	79	Rattus norvegicus lamina associated polypeptide 2 (LAP2)	617.6	214.4	-2	2.88059701
U21718		XP_040597	XM_040597	91n	C426 intestinal epithelium proliferating cell-associated mRNA sequence	2819.8	1418.9	-2	1.98731412
U34843	g1236114	g3551742	U27112	93	Rattus norvegicus cell cycle progression related D123 mRNA, complete cds (13 on d.s.)	567.2	256.9	-2	2.20786298
U77931	AAK21874			No	rRNA promoter binding protein	13221.3	5476.7	-2	2.41409973
U89743	AAB49893			Human	Unknown protein mRNA, partial cds	822.4	414.3	-2	1.985035
U95161	AAB54084	AAH02873	BC002873	73	Nuclear protein E3-3 orf2	1195.9	591.2	-2	2.02283491
X06769	CAA29937	CAA24756	V01512	77	c-fos mRNA	2221.7	1111.6	-2	1.99865059
X13044	CAA31450	NP_004346	NM_004355	67	Rat mRNA for MHC-associated invariant chain gamma	5019.5	2489.5	-2	2.01626833
X59864	CAA42524			No	Rat ASM15 gene	4536.4	2257.8	-2	2.00921251
X76453	S42784	P53816	X92814	82	Hras-revertant gene 107	2076.4	1023.1	-2	2.02951813
X83537	CAA58521	NP_004986	NM_004995	87	MT-MMP	8321.3	4870.2	-2	1.70861566
AA799497	CAA52612			No	EST (not recognized)	889.4	461.3	-1.9	1.92802948
X74504				Human	M.musculus T10 mRNA	4849.6	2387.3	-1.9	1.94763959
AA800039	AAH06701	XP_043202	XM_043202	90n	Rat EST; mouse hypothetical protein; Homo sapiens similar to ORF	8833.5	4649.3	-1.9	1.89996344
AA800189	B39066	T34520		73	ESTa, Weakly similar to B39066 proline-rich protein 15 - [R.norvegicus]	3823.5	1871.1	-1.9	1.93656138
AA800673					Mus musculus 10, 11 days embryo cDNA, RIKEN	1412.8	631.2	-1.9	2.2382763
AA859562					EST (not recognized)	1827.2	958.6	-1.9	1.90611308
AA859680					EST (not recognized)	921.7	480.5	-1.9	1.9182102
AA874896					EST (not recognized)	871.7	470.3	-1.9	1.85349777
AA875217					EST (not recognized)	2843.3	1532.6	-1.9	1.85521336
NM_022879	NP_075017	NP_067046	NM_021223	92(mus)	Mus musculus myosin light chain, regulatory A	2442.6	1276.4	-1.9	1.91366343
AA892897	1584463	XP_002844	XM_002844	67	Homo sapiens pro... n-lysine	808.4	423.3	-1.9	1.90975667

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V01270	XP_050453	XM_050453	M11167	93n	Rattus norvegicus genes for 18S, 5.8S, and 28S ribosomal RNAs	AA893870	52805.4	20589.7	-1.9	2.55225547
AF336828	AAK21297	XP_050453	XM_050453	93n	Nucleobindin	AA944007	26780.3	13801.7	-1.9	1.94108697
NM_031603	NP_113791	NP_006752	NM_006761	76	Tyrosine 3-monooxygenase	AA965154	4146.8	2239.9	-1.9	1.85133265
AB000362	BAA19092	NP_001271	NM_001280	98	GIRP (cold-inducible RNA-binding protein)		1364.1	590.2	-1.9	2.31125042
AB013454	BAA34221	NP_003043	NM_003052	69	NaPi-2 beta		1063.8	799.9	-1.9	1.32991624
AF030089	AAD43824		no human		Activity and neurotransmitter-induced early gene protein 4		988.2	508	-1.9	1.94527559
X61043	CAA443378	NP_001393	NM_001402	95	Elongation factor 1 alpha	A1008652	5992.4	3706	-1.9	1.61694549
BC003747	AAH03747	XP_006404	XM_006404	85n	Mus musculus, Similar to troponin T3, skeletal, fast, clone	A1136540	7250.8	4491	-1.9	1.61451782
D38556	BAA07559	NP_000845	NM_000854			A1138143				
BC012522	AAH12522	AAH11890	BC011890	78	Rattus norvegicus gene for glutathione S-transferase subunit Yrs	A1176422	2474.3	1336.3	-1.9	1.85160518
A1176589	R5RT27	S43505	L19527	94n	Mouse RIKEN; Homo sapiens, Similar to electron-transferring-flavoprotein dehydrogenase		1239.1	381.3	-1.9	3.24967217
X52311	CAA36549	XP_032696	XM_032696	100	Ribosomal protein L27	A1231445	9047.9	4769.3	-1.9	1.89711278
A1232477	P30670	P30670	AF085709	92n	Rat unr mRNA for unr protein with unknown function		579.2	560.5	-1.9	1.03336307
BC003336	AAH03336	XP_003190	XM_003190	100	G protein gamma-5 subunit	A1237756	2587.9	1361.4	-1.9	1.90091083
A1639958				85n	Mus musculus, Similar to replication factor C (activator 1) 4		785.3	294.7	-1.9	2.66474361
A1639376	XP_005580	XP_005580	XM_005580		EST (not recognized)		563.2	313.8	-1.9	1.8585086
D14014	BAA03115	P24385	X59798	92n	Homo sapiens golgi autoantigen, golgin subfamily a, 1 (GOLGA1), mRNA		762.1	400.6	-1.9	1.90239641
D49853	LTRT	P41159	U18915	82	Cyclin D1		3088.5	1625.5	-1.9	1.88772685
H31982				82	Obesity (murine homolog, leptin)		24058.3	14739.3	-1.9	1.63225528
J02827	AAA40811	NP_000700	NM_000709	86	Rattus norvegicus clone RP31-223K12		1382.3	727.8	-1.9	1.89928552
L27128	AAA42110	AAC60804	U34819		Branched chain alpha-ketoacid dehydrogenase precursor		560.2	311.5	-1.9	1.86260032
M36151	AAA44612	AAA59772	M81141	97	Rattus norvegicus stress activated protein kinase beta isoform		2279.7	1072.8	-1.9	2.125
M64986	AAA40729	NP_002119	NM_002128	77	MHC class II A-beta RT1.B-beta gene		1111.5	589.1	-1.9	1.86677644
				91	Amphoterin		841.7	20	-1.9	42.085

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M65149	AAA40913	NP_005186	NM_005185	81	CELF	1374.7	460.1	-1.9	2.98782873
M83681	AAA41988	NP_004274	NM_004283	88	RAB16	532.8	282.4	-1.9	1.88688555
X0701	CAA29887	NP_000509	NM_000518	78	Beta-globin gene	184613.4	98427.9	-1.9	1.87562063
U11038	AAC52176	NP_002308	NM_002317	72	Lysyl oxidase	2841.7	1407.1	-1.9	1.87740743
S7825	AAB34333	NP_002699	NM_002708	100	Protein phosphatase 1 alpha	4584.1	2448.1	-1.9	1.87251338
U09783	AAB60458	NP_004976	NM_004985	84	p21	1584.9	837.4	-1.9	1.8926439
U30813					Aspartyl-tRNA synthetase (Pel-DRS1) pseudogene	766.6	218.4	-1.9	3.51007328
U41453	AAD03788	XP_045858	XM_045958	45	PKC binding protein and substrate	4837.4	2499.7	-1.9	1.93519222
U48246	Q62919	Q92832	D83017	92	Protein kinase C-binding protein NELL1	2374	1223	-1.9	1.94112837
U95001	NP_446050	NP_061967	NM_019084	93	Diphosphoinositol polyphosphate phosphohydrolase type II (Nudt4)	3827.4	2513.8	-1.9	1.66233591
X07636	A28462	LNHU2A	M11025	67	Asialoglycoprotein receptor 2	525.7	365.2	-1.9	1.43948521
AF019973	AAB72088	CAA31512	X13120	98	Neuron-specific enolase	9861.6	7507.1	-1.9	1.32695715
X53581					R.norvegicus long interspersed repetitive DNA containing 7 ORFs	8415	4526.6	-1.9	1.85801118
X63375		AAA36352	M26161	87	Beta-1 subunit of Na,K-ATPase	2277.5	1201.2	-1.9	1.89602085
NM_022640	NP_071985	NP_006784	NM_006783	84	Rattus norvegicus peroxiredoxin 3	1098.1	611.9	-1.8	1.79457428
AA799732		Q14129	X96484	77	ESTs. Moderately similar to DGCR8	2235.3	1217.3	-1.8	1.83627701
AA800280					PROTEIN [M.musculus]	758.9	250.9	-1.8	3.02471104
AA800772					EST (not recognized)	1076.1	1339.7	-1.8	0.80323953
AB049845	BAB40998	XP_017954	XM_017954	83n	EST(not recognised)	907.7	516.9	-1.8	1.75604566
AA875500		XP_047123	XM_047123	87n	Homo sapiens mitochondrial ribosomal protein S11	876.4	479.3	-1.8	1.8284999
AA875665	AAH05487	AAH13436	BC013436	88n	Homo sapiens KIAA1460 protein	4994.7	2129.1	-1.8	2.34592081
AA875665	AAH05487	AAH13436	BC013436	88n	Hypothetical protein	4994.7	2129.1	-1.8	2.34592081
AA891221	NP_080580	XP_051185	XM_051185	96	Hypothetical protein	3754.8	3196.1	-1.8	1.1748068
AA891838	CAB87816	XP_043714	XM_043714	88n	Homo sapiens similar to 60S acidic ribosomal protein PO	3980.9	2228.3	-1.8	1.7910066
AA892250		XP_033978	XM_033978	88n		2016.7	2008.2	-1.8	1.00523378
AF143955	AAD32703	XP_008114	XM_008114	86n	Homo sapiens lysyl-tRNA synthetase	1705.5	1248.7	-1.8	1.36582045
AA892921		XP_054500	XM_054500	83n	Coronin	2594.7	1431.8	-1.8	1.81219444
AA893032					Homo sapiens sorcin (SRI)	1684.9	1188.4	-1.8	1.41778862
AA893905		XP_041716	XM_041716	84n	EST (not recognized)	1175.8	453.1	-1.8	2.59457073
					Homo sapiens similar to hypothetical protein FLJ22638				

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NM_012963	NP_037095	NP_002119	NM_002128	81	Rattus norvegicus High mobility group 1	AA944177	1746.8	986.9	-1.8	1.76986683
AF014503	AAB94673	NP_038517	NM_012385	83	p8 mRNA		1316.9	738.1	-1.8	1.78417559
AF016252	AAB72005	NP_115984	NM_032595	76	Spinophilin		2717.1	1483.8	-1.8	1.83117671
AF036781	AAB88665	AAD29870	AF097514	92	Stearoyl-CoA desaturase 2		17628	8364.2	-1.8	2.10755382
AF039583	AAC77438	NP_000565	NM_000574	45	Decay-accelerating factor		9201.9	4538.6	-1.8	2.02747543
AI010371					EST (not recognized)		863.9	308.4	-1.8	2.76880674
U05821	AAC52196	NP_001405	NM_001414		Rattus norvegicus translation initiation factor eIF-2B alpha-subunit	AI031019				
NM_017147	NP_058843	NP_005488	NM_005507	85	Cofilin 1	AI105348	1584.2	635.7	-1.8	2.492056
NM_019159	NP_062032	NP_003169	NM_003178	99	Synapsin II	AI145494	19437.2	10804.6	-1.8	1.79897451
AI170379		CAC38839	AJ303079	82	Homo sapiens mRNA for AKAP-2 protein		828.5	433.4	-1.8	1.91162898
AI175900	P41156	TVHUET	J04101	89n	Transcription factor els-1		1834.2	1817.4	-1.8	1.00924397
AI176351	Q64560	P29144	M73047	98	Tripeptidylpeptidase II		1695.4	946.1	-1.8	1.79198816
AI230130	g2848049	AAD40239	AF144748	96	Testicular ecto-ATPase		832.2	514	-1.8	1.81361868
AI638094				82	EST (not recognized)		4008.8	2221.8	-1.8	1.80340266
AF065438	AAC17177	NP_005558	NM_005567	67	Rattus norvegicus mama mRNA	C07012	527.4	24.7	-1.8	21.3622267
D10938	BAA01732	XP_006027	XM_008027	91	BDNF		3452.7	1938.5	-1.8	1.78111942
H31964					EST (not recognized)		1155.4	854.6	-1.8	1.35197753
J02791	AAA40670	NP_000007	NM_000016		Acyl-Coenzyme A dehydrogenase, C-4 to C-12 straight-chain		1385.8	783.2	-1.8	1.76940758
J05030	AAA40669	NP_000008	NM_000017	86	Rat short chain acyl-coenzyme A dehydrogenase (SCAD)		1666.5	641.9	-1.8	2.59618878
K02423	AAA98533	XP_030823	XM_030823	86	Rat fast myosin alkali light chain exon 1, specific for MLC1-f		1620.1	1884.4	-1.8	0.85974315
L08491	AAC42030	NP_000798	NM_000807	85	GABA-A receptor alpha-2 subunit		4891.2	2719.6	-1.8	1.79849978
M13100				92	Long interspersed repetitive DNA sequence LINE3		2190.4	1140.6	-1.8	1.92039278
M61142	g205374	P52888	Z50115	84	Metalloendopeptidase		16447.3	9215.5	-1.8	1.7847431
M62781	AAA53533	NP_000590	NM_000599	96	Rat insulin-like growth factor binding protein 5		516.1	282.5	-1.8	1.82690265
S66618		AAA59575	M14758	85n	Multidrug-resistance transporter P-glycoprotein		1577.6	2478.8	-1.8	0.63648834
S74257				No	2c9 gene		1091.5	591.3	-1.8	1.84593269
				Human			1324.8	744.6	-1.8	1.77921031

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U16025	AAA87069	CAA27578	X03945	67	Rattus norvegicus class Ib RT1 mRNA	2461.1	1114.7	-1.8	2.20785862
U17607	AAA91103	BAA12818	D85425	71	Rattus norvegicus CCAAT binding transcription factor CBF subunit C	1031.2	213.6	-1.8	4.82771538
U26358					S100A1 gene	5233.5	1555.9	-1.8	3.34218744
U28975	NP_446270	P48067	S70609	98	Glycine transporter (GLYT-1) gene	969.9	527.6	-1.8	1.83832449
U48588	AAC52596	XP_042068	XM_042066	81	MAP kinase kinase kinase 1 (MEKK1)	864	1624.9	-1.8	0.53172503
U75927		XP_004250	XM_004250	83n	Cytochrome oxidase subunit VIIa mRNA, 3' untranslated region, partial sequence	2880.7	1616.5	-1.8	1.78208001
U90725	AAD09246	A44125	M64098	97	Lipoprotein-binding protein	4473	2457.1	-1.8	1.82043873
X55286	P51639	RDHUE	M11058	92	3-hydroxy-3-methylglutaryl-Coenzyme A reductase	1684.3	710.6	-1.8	2.34210528
X55551	Q02195	P21781	A36301	90	Fibroblast growth factor 7	1720.2	360.7	-1.8	4.76906016
X60351	CAA42810	NP_001876	NM_001885	97	Alpha B-crystallin	19181.4	10581.9	-1.8	1.81266124
X70871	CAA50219	XP_017435	XM_017435	90	Cyclin G	5553.6	3505.4	-1.8	1.58429851
X71466	CAA50583	NP_004521	NM_004530	94	72 kDa type IV collagenase	3721.3	2141.6	-1.8	1.73762607
X97772	CAA66374	XP_010542	XM_010542	92	D-3-phosphoglycerate dehydrogenase	7149.9	4019.7	-1.8	1.77871483
AA798814	P49432	BC000439	AAH00439	83n	EST(not recognised)	915.9	536.9	-1.7	1.70590427
AA798858	NP_035048	A47328	L04288	56	Pyruvate dehydrogenase (lipoamide) beta	2371.4	2448.7	-1.7	0.96843223
AA798889	NP_035917	AAD56722	AF124145	88n	Natural killer tumor recognition protein (cyclophilin-related)	991.7	582.9	-1.7	1.70132098
NM_011787	NP_058788	AAA19236	U05682	85	Mus musculus autocrine motility factor receptor (TMM)	3882.6	2247.6	-1.7	1.71854422
NM_017092					Tyro3 (bruton agammaglobulinemia tyrosine kinase)	2799.1	1676.6	-1.7	1.86950972
AA874927					EST(not recognised)	8501.1	4861.8	-1.7	1.74854992
AA875198					EST(not recognised)	608.1	105.3	-1.7	5.77492877
AA875620	CAA54424	XP_004187	XM_004187	88	R.norvegicus Hsp70-3 gene (incomplete homology)	1187.1	706	-1.7	1.68144476
AA891724	NP_033801	XP_046863	XM_046863	88n	Homo sapiens KIAA0698 protein	1061.5	627.5	-1.7	1.69163347
NM_008671			AK025960	93n	Mus musculus ankyrin repeat hooked to zinc finger motif; Human cDNA	519.8	314.4	-1.7	1.65330789
AA892146	AAA40872	XP_003008	XM_003009	76	Carboxypeptidase B gene	3186.6	1871.1	-1.7	1.70306237



Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

AA892520	UBRTA	A23035	X01703	100	EST (not recognized)	2758.2	1653.7	-1.7	1.66789623
AA892548	BAB28828	XP_008062	XM_009062		Alpha-tubulin	706.2	425.2	-1.7	1.66086548
AA892777									
NM_011982	NP_036092	NP_001075	NM_001084	84n	Rat EST; mouse hypothetical protein; human hypothetical protein	1501.8	872.6	-1.7	1.72106349
NM_011844	NP_035974			87n	Mus musculus procollagen-lysine, 2-oxoglutarate 5-dioxygenase 3	1639.5	1069.5	-1.7	1.7199626
NM_010576	NP_034706	CAA29987	X06831	No	Mus musculus monoglyceride lipase	4402.1	2640.6	-1.7	1.66708324
AA893749				Human	Mus musculus Integrin alpha 2b	3197.1	2307.4	-1.7	1.36558551
AA893933				84n	EST (not recognized)	7128.9	4144.2	-1.7	1.72021138
BC003431	AAH03431	XP_032282	XM_032282		EST (not recognized)	2267.9	228.1	-1.7	9.89917067
NM_019147	NP_062020	NP_002217	NM_002226	83n	Mus musculus, serine protease inhibitor, Kunitz type 2	2825.5	2294.6	-1.7	1.14420814
AA825506	I56580	JW0050	AB010414	54	Rattus norvegicus jagged 1 (Jag1)	5392.3	3244.4	-1.7	1.66203304
U03480	AA860489	XP_015728	XM_015728	94	Guanine nucleotide binding protein (G protein), gamma 7 subunit	1285.1	742.1	-1.7	1.73170732
L18891	AAA41637	No human with high enough homology		86n	Phosphocholine cytidylyltransferase	813.5	488.1	-1.7	1.66325605
NM_017187	NP_058883	NP_002120	NM_002129	95n	Rattus norvegicus Inter-cellular calcium-binding protein (MRP8)	4328.2	2148.1	-1.7	2.01536241
S67755	AAB29536	NP_001631	NM_001540	91	Rattus norvegicus high mobility group protein 2	2807.1	1143.4	-1.7	2.28012844
AB011528	BAA32459	XP_042739	XM_042739	82	Rattus norvegicus heat shock protein 27	6673.2	3322.2	-1.7	2.00866895
AB020504	BAA34715			63	MEGF2	1032.6	604.5	-1.7	1.70818859
AF006664	AAB62696	P52852	U34962	Human too low	PMF31	2277.1	1370.6	-1.7	1.66138917
AF034896	AAD01991	NP_039229	NM_013941	87	Rattus norvegicus tinman homolog (NKX-2.5) mRNA, complete cds	2984.5	4111.5	-1.7	0.72589079
AF036335	AAD05362	P23246	XM_051944	57	Olfactory receptor-like protein (SCR D-6)	1871.9	1093.7	-1.7	1.71152867
AF056324	AAC29479	NP_002958	NM_002967	96	Rattus norvegicus NonOp54nrb homolog mRNA, partial cds	1916.5	1117	-1.7	1.71575649
AF072411	AAC24876	XP_034144	XM_034144	74	Scaffold attachment factor B	1237.4	741.4	-1.7	1.68900459
				84	Fatty acid translocase/CD38 mRNA	767.6	456.1	-1.7	1.68298426

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AF080468	AAC79839	NP_001458	NM_001467	93	Rattus norvegicus putative glycogen storage disease type 1b protein // glucose-6-phosphatase	2489.9	1427.3	-1.7	1.74448259
AF089839	AAC63035	XP_012637	XM_012637	96	N-ethylmaleimide sensitive factor mRNA	608	362.2	-1.7	1.67883059
AF086291	AAC84200	AAB08055	U59747	83	Bcl-w	1988.2	1163.3	-1.7	1.69191084
M27315	CAA40505	NP_057535	NM_016451	95	Mitochondrial Genome	76787.6	40574.5	-1.7	1.89250884
X57228	S14538	A46372	M88278	87	Rat mRNA for beta COP ESTs, Highly similar to P59	777.1	978.5	-1.7	0.79417476
A1138977	CAA30252	NP_061821	NM_018948	74	PROTEIN [M.musculus]	5398.1	2497	-1.7	2.16103324
X07266	JQ1945	Q8UIJ7	AB021870	89	Rat mRNA for gene 33 polypeptide	819.3	484.4	-1.7	1.69137077
A1176052	CAB01633	AAB27856	S64598	84	Adenylate kinase 3	2846.4	1586.3	-1.7	1.68828469
Z78278	AAC69268	NP_005707	NM_005716	84	Collagen alpha1 type I	48998.2	28427.5	-1.7	1.65326532
AF032120	CAA06788	NP_004427	NM_004436	80	GLUT1 transporter C-terminal binding protein	9752.8	5787.1	-1.7	1.68526655
A1639347	CAA07587	XP_008403	XM_008403	74	EST (not recognized)	4824.5	2800.6	-1.7	1.72266657
AJ005984	BAA00592	NP_000231	NM_000240	82	Alpha-endosulfine	2723	1574.9	-1.7	1.72899887
AJ007628	BAA08388	NP_000860	NM_000869	82	ELK channel 1	2936.4	1738.4	-1.7	1.69913944
D00888	BAA36277	AAK97528	AF408198	71	Monocamine oxidase A	2275.9	1358.1	-1.7	1.67828856
D49395	BAA14236	NP_002285	NM_002294	58	Serotonin 5-HT3 receptor	3331.9	1190.1	-1.7	2.7996807
D85435	Q06000	LJHUL	M15956	92	Protein kinase C delta-binding protein	2699	1633.9	-1.7	1.65187588
D80211	AAA74561	I38414	U02619	77	96 Kd lysosomal membrane glycoprotein	4755.6	2842.1	-1.7	1.67328977
L03294	A56011	XP_009229	XM_009229	88	Lipoprotein lipase	1752.9	1171.3	-1.7	1.4985423
L13201	AAA05843	NP_005391	NM_005400	83	HNF-3/forkhead homolog-1	1219	463.1	-1.7	2.63226085
L28801	AAA41877	NP_055182	NM_014367	77	Rat transcription factor IIIC alpha-subunit mRNA, complete cds	10807.1	6497.4	-1.7	1.66329609
L41685	AAA42232	NP_000005	NM_000014	70	Rattus norvegicus (clone REM3)	7107.6	4250.1	-1.7	1.87233712
M13100	AAA41592	CAA41491	X58633	62	ORF mRNA, partial cds	3161.2	1881.8	-1.7	1.87888097
M15523	AAA41246	NP_000005	NM_000014	70	Long interspersed repetitive DNA sequence LINES	2575.5	1574.4	-1.7	1.63586128
M17412	AAA41592	NP_000005	NM_000014	70	Rat protein kinase C-family related mRNA, partial cds, clone RP16	3859.4	2279	-1.7	1.59346204
M22670	AAA41592	NP_000005	NM_000014	70	Growth and transformation-dependent protein	1358.9	822.4	-1.7	1.65235895
M36421	AAA41592	NP_000005	NM_000014	70	Alpha-2-macroglobulin	1015.2	352.3	-1.7	2.88163497

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

M64797	AAA41163	NP_004558	NM_004567	97	6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4	4597.4	871.9	-1.7	5.27285239
M93257				No Human	Cathechol-O-methyltransferase, 3' flank	5819.1	3445.4	-1.7	1.68894758
M96630	AAA42125	XP_043841	XM_043841	100	Homologue to sec61	1861.4	1102.8	-1.7	1.68788538
S58644	AAB26278		No human			10787.3	6301.6	-1.7	1.71183509
S71570	AAB30670	XP_044348	XM_044348		Integrin beta 5 subunit				
S75280	AAB33049	XP_038637	XM_038637	97	Ca2+/calmodulin-dependent protein kinase II isoform gamma-b	7036.9	4256.5	-1.7	1.65321273
S75359	AAB33865	NP_004320	NM_004329	92	Rattus sp. pre-mitISP70 mRNA	1304.1	324.4	-1.7	4.02003699
				95	Bone morphogenetic protein type IA receptor	629.8	374.4	-1.7	1.68215812
U02522	AAA82722	NP_004680	NM_004689	89	Mta1 (metastasis associated protein)	687.5	401	-1.7	1.71446384
U14192	AAA62632	NP_003706	NM_003715	83	General vesicular transport factor p115	2293.3	1824.8	-1.7	1.19144846
U24282	AAC52241	P55073	S79854		Rattus norvegicus type III iodothyronine deiodinase (dioli)				
				94	mRNA	5322.4	4826.5	-1.7	1.15041608
U26397	AAB01069	NP_004018	NM_004027		Inositol polyphosphate 4-phosphatase	2449.2	1468.2	-1.7	1.6681651
U52103	AAB03281	XP_011864	XM_011864	93	Rattus norvegicus rCRMP-3 mRNA, partial cds	1908	1124.7	-1.7	1.69845239
U55815	AAC52634	NP_005063	NM_005072	92	Furosemide-sensitive K-Cl cotransporter	892.1	518.9	-1.7	1.71921372
U72741	P97840	O00182	AB006782	87	Lectin, galactose binding, soluble 9 (Galactin-9)	2183.6	658.2	-1.7	3.31763266
U77583	AAB19228	XP_046995	XM_046995	83	Casein kinase I alpha L	2378.7	1427.8	-1.7	1.66598863
M13101					Rat long interspersed repetitive DNA sequence LINE4	9863.7	5879.4	-1.7	1.69297888
U88036	g2738223	P46721	U21843	72	Brain digoxin carrier protein	2148.5	1291.7	-1.7	1.66176357
U90610	AAB50408	CAA12166	AJ224869	90	CXC chemokine receptor (CXCR4) mRNA	4138.2	2371.2	-1.7	1.74519231
U95052		NP_001409	NM_001418	88	Translation repressor NAT1 mRNA, partial 3'UTR	13013.1	7836.5	-1.7	1.66016181
X05472					Rat 2.4 kb repeat DNA right terminal region	1956.4	1123.6	-1.7	1.74118904
X06554	CAA29787	NP_002352	NM_002361	84	Myelin-associated glycoprotein (S-MAG) C-term	8012.3	3402.4	-1.7	2.35489654

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

X12589	CAA31102	XP_006987	XM_006987	84 No Human	Voltage-dependent potassium channel protein	7941.8	4766.4	-1.7	1.6662051
X56325	CAA39784				2-alpha-1 globin gene	333391.3	175617	-1.7	1.89839983
X77934	CAA54806	NP_001633	NM_001642	79	Amyloid precursor-like protein 2	2482.6	1432.8	-1.7	1.73269123
X95986	CAA65230	NP_001748	NM_001757	83	CBR gene	779.8	446.7	-1.7	1.74589082
Y00350	CAB50784	XP_046565	XM_046565	82	Uroporphyrinogen decarboxylase	2164.7	1246.6	-1.7	1.73648323
Y13413	CAA73837	BAA35188	AB018247	91	Rattus norvegicus mRNA for Fe65L2 protein	1681.7	100.9	-1.7	16.666987
Z78279	CAB01633	AAB27856	S64596	84	Collagen alpha1 type I	28544.1	16544.8	-1.7	1.72528187
AA799473					EST (not recognized)	5190.9	3287.8	-1.6	1.58849981
AA799819					EST (not recognized)	5810.1	4139.6	-1.6	1.35522756
AA800680	BAB28231				EST (mouse hypothetical protein)	4003.9	2518.6	-1.6	1.58973239
AA800684	PT0198	OKHULK	X06369		ESTs, Moderately similar to TYROSINE-PROTEIN KINASE LYN [R.norvegicus]	1698.6	1046	-1.6	1.82390057
BC004055	AAH04055	XP_011894	XM_011894	93	Homo sapiens supervillin (SVIL)	2777.3	1709.3	-1.6	1.62481718
AA859897		XP_007325	XM_007325	87	Homo sapiens sel-1 (suppressor of lin-12, C.elegans)-like	709.4	449.5	-1.6	1.578198
AA859894		P50453	AL110126	92	Human cDNA	709.1	365.9	-1.6	1.93796119
AA875037	S18896		L40378	92	ESTs, Weakly similar to PLASMINOGEN ACTIVATOR INHIBITOR-2, TYPE A				
AA875414				76	[R.norvegicus]	620.8	2129.6	-1.6	0.29141623
NM_031026	NP_112288	NP_006132	NM_006141	90	EST (not recognized)	1038	663.5	-1.6	1.56443105
AA891737					Rattus norvegicus LIC-2 dynein light intermediate chain 53/55	699.5	726.8	-1.6	0.96243808
NM_025296	NP_076572	XP_051882	XM_051882	87n	EST (not recognized)	2248.8	1144.2	-1.6	1.95539087
AA892234		XP_034289	XM_034289		WD40 protein	2008.9	1243.5	-1.6	1.61552071
AA892768					EST (not recognized)	22453.4	14227	-1.6	1.5782245
					Homo sapiens putative breast adenocarcinoma marker (32kD) (BC- 2)	2334.3	1417.4	-1.6	1.84688867
AA893443	AA892787	NP_058461	NM_015646	91n	Rap1B	4190.3	2301.9	-1.6	1.82036678
AA893607				86	EST (not recognized)	1186.3	719.7	-1.6	1.64832569
AA893708					EST (not recognized)	4238.3	2593.7	-1.6	1.63407487
AA893777					EST (not recognized)	1349.7	622.9	-1.6	2.16680045
X00525			M11167	93n	Mouse 28S ribosomal RNA	10682.1	6845.4	-1.6	1.56047857

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

AA899106 X06801 AA944073	CAA29957	NP_001604 Not high enough human homology to include	NM_001613	100	EST (not recognized) Rat mRNA for vascular alpha-actin	AA900769 AA944073	1167.7 2982.4	736.8 2029.7	-1.6 -1.6	1.58482628 1.46937971
AA946532	P16970	M81182	M81182	95	R.norvegicus mRNA for ribosomal protein L41		16178.5	9837.8	-1.6	1.64452418
L14936	AAA41620	NP_108587	NM_030662	86	ATP-binding cassette, sub-family D (ALD), member 3	AA957898	14485.8	8780.1	-1.6	1.6479676
AA963447		XP_034848	XM_034848	86n	MAP kinase kinase (MKK2)		5233.8	2645.4	-1.6	1.97845316
X85497	CAA46478	XP_037275	XM_037275	87n	Homo sapiens phosphatase and tensin homolog	AA984849	1112.7	679.7	-1.6	1.63704576
AB016800	BAA34306	XP_006087	XM_006087	82	R.norvegicus mRNA for poly(ADP-ribose) polymerase		2533.7	1573	-1.6	1.6107438
AF003835	AAC53282	NP_004499	NM_004508	82	7-dehydrocholesterol reductase		1953.9	1223.7	-1.6	1.59671488
AF017437	AAB70273	NP_001768	NM_001777	82	Isopentenyl-diphosphate delta isomerase		6614.8	2823.6	-1.6	2.3426831
AF036255	AAC17997	NP_006449	NM_006458	62	Integrin-associated protein		685.8	419.7	-1.6	1.63354777
AF048687	AAC24515	XP_008799	XM_008799	97	RING finger protein		1354	822.5	-1.6	1.64620061
AF055292	AAC12759	XP_043113	XM_043113	91	UDP-Galactose-4-epimerase; beta-1,4-galactosyltransferase		1300.4	798	-1.6	1.62957393
AF062594	AAC67388	NP_004528	NM_004537	90	Signal transducer and activator of transcription 6 (stat6)		2816.8	1425	-1.6	1.97670175
AF087696	AAC78484	CAB66489	AL136554	57	Nucleosome assembly protein		4688.1	2939.2	-1.6	1.59538609
AF093268	AAC71032	NP_004263	NM_004272	97	dlg 2 mRNA, partial cds		1632.5	1101.8	-1.6	1.39090579
AF100421	AAC72405			90	Homer-1c		566.1	360.9	-1.6	1.56857855
BC012408	AAH12408	AAH03552	BC003552	No	LYRIC mRNA		1178.4	716.3	-1.6	1.64512076
AF000944	AAB58717	NP_004483	NM_004492	Human	Similar to Calnexin	AI010725	12194.4	7668	-1.6	1.59029734
NM_012734	NP_036868	NP_277032	NM_033497	89n	TFIIA small subunit mRNA	AI012534	2128.8	1361.1	-1.6	1.56402809
NM_010887	NP_035017	NP_002486	NM_002495	99	Hexokinase 1	AI012593	12557.9	6986.8	-1.6	1.78737505
AI030175	P27867	Q00796	L29008	91	Mus musculus NADH dehydrogenase (ubiquinone) Fe-S	AI013297	4647.1	2279.9	-1.6	2.03829115
L22079		AAH15065	BC015065	83	Sorbitol dehydrogenase		2289.9	1437.5	-1.6	1.59993043
AF117340	AAD25049			82	SCAMP 37	AI073184	1209.2	740.6	-1.6	1.63273022
				88n	Mus musculus MAP kinase kinase 1	AI102620	1638.9	1040.1	-1.6	1.57571387

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NM_031099	NP_112361	NP_000860	NM_000969	92	Rattus norvegicus ribosomal protein L5	AI103498	666.8	135.1	-1.6	4.93560326
AI104513	P11240	P20874	M22760							
NM_017172	NP_058868	XP_031094	XM_031084	86	Rat CoxVa mRNA for mitochondrial cytochrome c oxidase subunit Va		1318.1	1032.1	-1.6	1.27710493
AI177790	Q05310	AAD44484	AF078852	78	Rattus norvegicus butyrate response factor 1	AI112516	4385.4	2722.3	-1.6	1.61081724
M15254	AAA41832	NP_002610	NM_002619	84	R. norvegicus mRNA from Leydig cell hypercalcemic tumour H-500		2039	1294.3	-1.6	1.57536993
M26594	AAA41563	AAB01380	L34035	61	Rat platelet factor 4	AI168104	4673.3	2844.1	-1.6	1.64315601
AI177256				88	Rattus norvegicus malic enzyme (MAL) gene	AI171506	989.2	608.7	-1.6	1.62510268
NM_031094	NP_112356	CAA53661	X76061		EST (not recognized)		3980	2425.8	-1.6	1.6448182
NM_017212	NP_058908	NP_058518	NM_016834	81	Rattus norvegicus retinoblastoma-like 2 (p130)	AI180396	1841.1	1080.3	-1.6	1.68861781
NM_019182	NP_062065	CAA77836	Z11793	74	Rattus norvegicus microtubule-associated protein tau	AI227608	21234.3	13506.5	-1.6	1.57215415
AI639125				62	Selenoprotein P, plasma, 1	AI230247	1982.9	1757.9	-1.6	1.12799363
AI639200					EST (not recognized)		1712.7	850.7	-1.6	2.01328318
AI639225					EST(not recognised)		929.5	575	-1.6	1.61652174
AI639284					EST(not recognised)		2045	1293.3	-1.6	1.58122632
AI639381					EST (not recognized)		76817.3	47739.4	-1.6	1.60909847
AI639391				88n	EST		1969.1	1238.4	-1.6	1.59003553
AI639499					EST (not recognized)		4424.1	2969.1	-1.6	1.48004749
AJ001929	CAA05100	XP_004716	XM_004716	95	CBP-50		1331	812.2	-1.6	1.63875893
D00636	BAA00530	NP_000389	NM_000398	83	NADH-cytochrome b5 reductase		8792.9	5442.5	-1.6	1.61559945
D12519	BAA02089	NP_004594	NM_004603	89	SAP gene for synaptotagmin associated 35kDa		10328.1	5418.7	-1.6	1.90601067
D13376	BAA02643	AAH01116	BC001116				3653.4	2231.7	-1.6	1.63704789
D14418	BAA21803	AAA35531	M31786	86	Adenylate kinase 1, partial sequence		2280.9	1445.5	-1.6	1.58409547
D16237	BAA03762	NP_068659	NM_021873	98	A regulatory subunit of protein phosphatase 2A		16995.1	10386.2	-1.6	1.6363155
D17764	BAA04610	NP_003076	NM_003085	74	cdc25B		3682.2	2230	-1.6	1.64224215
D21800	BAA04824	NP_002786	NM_002795	97	Phosphonuroprotein 14		1850.5	1208	-1.6	1.53441128
D28557	BAA05907	AAH08744	BC008744	98	Proteasome subunit RC10-II		14259.8	8715.8	-1.6	1.63608619
D30804	BAA08463	NP_002783	NM_002792	69	RYB-a		3957.6	2691.1	-1.6	1.47062539
				95	Proteasome subunit RC6-1		6294.1	3910	-1.6	1.60974425

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

D43778	BAA07833	AAA50762	U15592	72	Angiotensin II type 2 receptor	808.4	520.8	-1.6	1.55282367
D45252	BAA08208	NP_002331	NM_002340	82	2,3-oxidosqualene:lanosterol cyclase	4178.7	2021.6	-1.6	2.06702612
D49785	BAA08821	NP_008292	NM_008301	75	Protein Kinase (MUK)	2481.6	1834.4	-1.6	1.34191018
D84346	P55161	BAA77295	AB014509	99	NCK-associated protein 1	7266.3	3922.2	-1.6	1.85311815
H33426					EST (not recognized)	1139.7	720.1	-1.6	1.58269885
H33629		XP_018213	XM_018213	91	Homo sapiens hypothetical protein FLJ11046	987.9	845.3	-1.6	1.1686975
J04488	AAA41839	NP_000945	NM_000954	71	Rat prostaglandin D synthetase	26266.2	11750.8	-1.6	2.1501685
L06096	AAA41446	NP_002214	NM_002223	62	Rat inositol triphosphate receptor subtype 3	6825.7	4345.2	-1.6	1.5708598
L08228	X63255	NP_015566	NM_007327	90	Rattus norvegicus N-methyl-D-aspartate receptor (NMDAR1) gene, exons 1 through 22	3819.7	4713.2	-1.6	0.81042604
L13635	AAA62268	XP_031133	XM_031133	81	Growth response protein (HRS) mRNA	3405.7	2155.5	-1.6	1.58000464
L20869	AAA41809	NP_002571	NM_002580	61	Rat pancreatitis associated protein III	578.7	148.8	-1.6	3.8891129
L22788	AAA57155	NP_001436	NM_001445	78	14 kDa bile acid-binding protein (I-BABP) mRNA	40028.2	24497.1	-1.6	1.63389749
L26267	AAA20684	XP_028204	XM_028204	82	Nuclear factor kappa B p105 subunit	1686.9	20	-1.6	84.345
L31840	AAA74476	NP_085134	NM_020401	88	Nuclear pore complex protein NUP107	2149.9	816.5	-1.6	2.63306797
M17096	AAA42260	No human with high enough homology			Rat transition protein 1 mRNA, complete cds	656.3	843.9	-1.6	0.77769878
M26161	P10499	Q08470	L02750	97	Rattus norvegicus potassium channel protein mRNA, complete cds	2114.5	943.3	-1.6	2.24159864
M57728	AAA41632	XP_054752	XM_054752	83	Rat general mitochondrial matrix processing protease (MPP) mRNA, 3' end	1477.2	917.8	-1.6	1.60850098
M80826	AAA42270	BAA95531	AP001746	68	Intestinal trefoil protein	1524.9	931.7	-1.6	1.83688563
M83107	AAA40762	XP_008432	XM_008432	97	SM22	1082.6	684.7	-1.6	1.58113042
M82340		XP_042068	XM_042068	83n	Rat (clones rLG08,14,25) interleukin 6 signal transducer mRNA	1520.1	1104	-1.6	1.37690217

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

M98567	AAK14906	XP_048298	XM_048298	83	Phospholipase C beta-3 mRNA, partial cds	2124.7	1302.4	-1.6	1.63137285
S50879	AAB24588	NP_000656	NM_000655	82	Acetylcholinesterase T subunit	2235.1	1160.1	-1.6	1.92664425
S73007	AAB20688	NP_000336	NM_000345	73	Synuclein SYN1	7893.9	3937.2	-1.6	2.00495276
S75435	AAB32520	AAA61110	M16768	46	TCR gamma C4L=T-cell receptor gamma chain	6223.5	3981.6	-1.6	1.57095618
S78556	AAB34982	XP_038637	XM_038637	93	75 kda glucose regulated protein	6233.1	3884.7	-1.6	1.60452545
S81353	AAB36042	NP_037145	NM_013013	94	Sulfated glycoprotein-1	22254	13927.8	-1.6	1.60936664
U03120	AAA19015	NP_037165	NM_013033	84	Sodium-glucose cotransporter 1	3117.7	1898.3	-1.6	1.84236422
U04738	AAA17519	XP_008594	XM_008594	83	Major hippocampal somatostatin receptor	2598.2	2285.3	-1.6	1.13691857
U11894	AAA91778	AAA60131	J03280		Rattus norvegicus WKY and SHRSP phenylethanolamine N-methyltransferase (PNMT) gene	1631.9	1677.9	-1.6	0.97258478
U11419	AAA50554	NP_000824	NM_000833	81	glutamate receptor	3948.7	1305.9	-1.6	3.02373842
U18314	AAC52209	AAB60330	U09087	79	Lamina associated polypeptide 2 (LAP2)	892.4	559.8	-1.6	1.58414076
U19893	JC7186	XP_028443	XM_028443	88	Alpha actinin 4	3075.7	1931.8	-1.6	1.59214204
J05517	AAA37210	AAH10568	BC010568	87(mus)	Mouse aldolase A gene	40827	25938.5	-1.6	1.57399233
U30485	AAC52981	NP_001340	NM_001349	94	Aspartyl-IRNA synthetase (DRS1) gene	15613.4	9683.5	-1.6	1.61237156
U36482	AAC15239	NP_006808	NM_006817	91	endoplasmic reticulum protein ERp29 precursor	2757.9	1707.7	-1.6	1.61487821
U44948	AAC52554	NP_001312	NM_001321	88	Rattus norvegicus smooth muscle cell LIM protein	1735.1	1105.1	-1.6	1.57008416
U57042	AAB03110	AAB50235	U90339	90	Adenosine kinase mRNA	3737.3	2403.4	-1.6	1.55500541
U59573	AAC52896	XP_002447	XM_002447	74	Tyrosine phosphatase 20	856.1	1255.1	-1.8	0.76177197
U75393	AAF88184	Homology too low for human			Succinyl-CoA synthetase alpha subunit mRNA nuclear gene encoding mitochondrial protein, partial cds and 3' untranslated sequence				
NM_012551	NP_036683	NP_001955	NM_001954	72	Krox-24 mRNA, 3' untranslated region, partial sequence	4859.8	2436.8	-1.6	1.99433684
U75929				No Human	SPARC mRNA, 3' untranslated region, partial sequence	831.8	514.7	-1.6	1.61608704
U75973	AAC53423	XP_027086	XM_027086	86	NAAG-peptidase	5380.2	3270.4	-1.6	1.64511886
U88324	AAD00850	NP_002085	NM_002074	95	G protein beta 1 subunit (rGb1) mRNA	1474.2	519.7	-1.6	2.83663652
						30804.5	19786.6	-1.6	1.55683644



Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

X00722	CAA33735	AA011466	M11167	96n	Rat 32S pre-rRNA 5'-terminal part with 28S rRNA sequence		5945.5	3762.8	-1.6	1.58007335
X15705	CAA37581	NP_000967	U56725	90	HST protein (AA 1-833)		2521	1549.2	-1.6	1.62729151
X53504			NM_000976	99	Ribosomal protein L12		14416.8	9018.3	-1.6	1.59850526
X53581					R. norvegicus long interspersed repetitive DNA containing 7 ORFs					
X57988	CAA41054	NP_000309	NM_000318	88	Peroxisome assembly factor-1	E03344	4575.6	2106.9	-1.6	2.17172149
X61381	CAA43655	AAH06784	BC006784	65	Interferon induced mRNA		609.3	378.4	-1.6	1.61020085
X62660	CAB46530	NP_000838	NM_000847	58	Glutathione transferase subunit 8		7790.8	4822	-1.6	1.61567814
X68189	CAA48287	NP_005370	NM_005379	59	MYR1 mRNA for myosin I heavy chain		813.8	20	-1.6	40.69
X83399	CAA58316	NP_001959	NM_001968	99	eIF-4E		896.5	544.2	-1.6	1.64737229
X89383	CAA61563	XP_046287	XM_046287	90	SNF1-related kinase		1391.8	895.9	-1.6	1.5535216
X89963	CAA62002	NP_003239	NM_003248	83	TSP-4 protein		842.7	534	-1.6	1.57808989
Y09507	CAA70701	XP_050771	XM_050771	85	Hypoxia-inducible factor 1		934.6	573.6	-1.6	1.62935844
Z15123		Homology too low for human			S-adenosylmethionine decarboxylase gene, exons 4-8		882.5	542	-1.6	1.59132841
Z78279	CAB01633	AAB27856	S64596	84	Collagen alpha1 type I		1989.6	1249	-1.6	1.57694155
X14210	CAA32427	NP_000998	NM_001007	100	Rat mRNA for ribosomal protein S4	AA789501	44177.8	24783.4	-1.6	1.7818371
NM_013908	NP_038936			No	Mus musculus f-box and WD-40 domain protein 5	AA789654	3727.8	2515.8	-1.5	1.48175531
X87107	CAA60588	AAH04138	BC004138	Human	R. norvegicus mRNA for ribosomal protein L6	AA789672	2914.4	1556.4	-1.5	1.87252634
NM_008087	NP_033113	XP_040540	XM_040540	77	Mus musculus RNA polymerase 1-3	AA789724	38074.1	26188.7	-1.5	1.453948
AA799773				92n	Mus musculus 18 days embryo cDNA, RIKEN		759.9	502.7	-1.5	1.51163716
AF145716	AAF34244	XP_045680	XM_045680	87	Mus musculus SCHIP-1 mRNA	AA800036	2027.2	1316.5	-1.5	1.53984049
J02650	AAA42071	NP_000972	NM_000981	72	Rattus norvegicus ribosomal protein L19	AA800054	1811	1238.8	-1.5	1.46189881
AF364071	AAK50399	NP_055147	NM_014332	81	Rattus norvegicus SMPX protein	AA800221	38194.8	25392.2	-1.5	1.5041942
AA800535		T47144			ESTs, Weakly similar to T47144 hypothetical protein		779.8	535.4	-1.5	1.45648114
				29	DKFZp761E1347.1 [H.sapiens]		2286.3	938.3	-1.5	2.44184556
AA800686		BAA13198	D86962	88n	Similar to growth factor receptor-binding protein Grb10		1819.2	1111.6	-1.5	1.63655891
NM_012889	NP_037031				Delta - aminolevulinic acid dehydratase (Alad)	AA800745	597.8	409.4	-1.5	1.46018584

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X14848						Rattus norvegicus mitochondrial genome	AA800849	171420.7	117691.9	-1.5	1.4565208
AA800850		NP_005171	NM_005180	85		murine leukemia viral (bm1-1) oncogene homolog (BM1), Rattus norvegicus mitochondrial genome		2173.5	1265.5	-1.5	1.71750296
X14848								2430.2	1635.7	-1.5	1.46572477
NIM_008568	NP_032594	XP_036806	XM_036806	87n		Mini chromosome maintenance deficient 7	AA856636	1577.3	1050.9	-1.5	1.50090399
AA859680						EST (not recognized)		4501.6	3092.9	-1.5	1.45546251
AA859757		JQ1037	M76477			EST (not recognized)		6171.8	4080.4	-1.5	1.50884989
AA859804						ESTs, Highly similar to SAP3 PRECURSOR [M.musculus]					
AA859909				74		EST (not recognized)		1987.3	1354.8	-1.5	1.46685858
AA859933						EST(not recognised)		868.3	579	-1.5	1.49865458
AA866248						EST (not recognized)		897	526.2	-1.5	1.70467503
AA866364						EST (not recognized)		8953.9	4750	-1.5	1.88503158
AA866439						EST (not recognized)		3499	2310.2	-1.5	1.51458748
XG6209	CAG46960					EST (not recognized)		5724.7	3913.1	-1.5	1.46285776
S81497	AAB35043		U08464	72		Rat alpha-2(I) promoter (I)	AA866454	2973.5	2703.2	-1.5	1.0999926
D88316	BAA22822	XP_051905	XM_051905			Lysosomal acid lipase	AA874784	3631.8	923.6	-1.5	3.93222174
NM_025286	NP_079572	XP_057061	XM_057061	81(mus)		Mouse mRNA for tetracycline transporter-like protein	AA891535	2506.1	1140.3	-1.5	2.19775498
AF219141	AAG37102	XP_030289	XM_030289	87n		Mus musculus WD40 protein Clao1 binding protein	AA891829	2498	1654.9	-1.5	1.50945676
AA891877				88n		Mus musculus nuclear ATP/GTP-	AA891864	4336.1	2963.9	-1.5	1.46297109
AA892325		XP_001428	XM_001428			Mus musculus 18 days embryo cDNA, RIKEN		1993.6	1314.9	-1.5	1.51616082
AA892378	NP_079638	XP_051242	XM_051242	85n		Homo sapiens choline/ethanolaminephosphotransferase		895.2	826	-1.5	1.08377724
AK004841	BAB23808			89n		Homo sapiens CGI-135 protein (LOC51024); Also listed as Rat EST and mouse hypothetical protein		2138	1469.8	-1.5	1.45461988
AA892863				82n		Mouse RIKEN	AA892789	3489.8	2033.8	-1.5	1.71590127
BC009127	AAH09127			89n		EST (not recognized)		723.7	638.2	-1.5	1.13397054
AK013971				84n		Mouse RIKEN	AA892937	2252.3	1472.5	-1.5	1.52957555
						Mouse RIKEN	AA893208	2638.5	1885.1	-1.5	1.50575566





Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

U13371	NP_064337	NP_055070	NM_014255	88n	Mouse Clone Mus musculus transmembrane protein 4	AI639149	1166.3	768.4	-1.5	1.51782828
NM_019853	NP_083061	XP_053842	XM_053842	89n	Mouse RIKEN	AI639208	1855.3	1208.7	-1.5	1.53495491
NM_028785	AAH02306	NP_006076	XM_000739	88n	Homo sapiens KIAA0854 protein EST(not recognised)	AI639255	4324.4	2815	-1.5	1.53618893
AI639372	CAA04022	XP_042309	XM_008403	91	Mus musculus, Similar to CG11248 gene product	AI639518	3386.3	1385.6	-1.5	2.44392321
AI639387	XP_008403	XP_016878	XM_016878	93	Rattus norvegicus mRNA for 3'(2'),5'-bisphosphate nucleotidase		1045.9	715.9	-1.5	1.46085823
BC002306	XP_008403	XP_016878	XM_016878	91	CAP1 gene		5007.1	3439.3	-1.5	1.45584857
AJ000347	XP_016878	XP_016878	XM_016878	91	ELK channel 3		3080.5	2085.7	-1.5	1.47698217
AJ007291	XP_016878	XP_016878	XM_016878	91	Ubiquitin carboxyl-terminal hydrolase		15227	10082	-1.5	1.51031541
AJ007632	XP_016878	XP_016878	XM_016878	91	Proteasome subunit RC1		1821.8	1246.4	-1.5	1.46164855
D10699	XP_016878	XP_016878	XM_016878	91	FGF receptor-1		74133	50083.7	-1.5	1.47988669
D10729	XP_016878	XP_016878	XM_016878	91	BTE binding protein		1798.1	1165.1	-1.5	1.5441593
D12498	NP_001197	NP_001197	NM_001206	91	BTE binding protein		4477.1	3083.6	-1.5	1.45190686
D12769	NP_001197	NP_001197	NM_001206	91	BTE binding protein		1318.4	2120.6	-1.5	0.62171084
D12769	NP_001197	NP_001197	NM_001206	91	BTE binding protein		951.1	972	-1.5	0.97849784
D17521	NP_001820	NP_001820	NM_001829	90	Protein kinase C-regulated chloride channel		5493.9	3580.2	-1.5	1.53452321
D21869	AAH07798	AAH07798	BC007798	98	PKF-M (phosphofructokinase-M)		4316.8	2941.4	-1.5	1.46760046
D38560	XP_003450	XP_003450	XM_003450	85	CyclinG-associated kinase		1084.2	704.1	-1.5	1.51143304
D44495	BAA07938	BAA02633	D13370	87	APEX nuclease		2921.7	1942.2	-1.5	1.50432499
D50093	BAA08790	AAG21693	AY008282	59	Prion protein		32300.5	18687	-1.5	1.7285011
D86041	BAA18993	NP_036269	NM_012137	93	N-G,N-G-dimethylarginine dimethylaminohydrolase		4971.5	3409.6	-1.5	1.46808893
D87515	O08175	S65947	J03459	39	Aminopeptidase B		618.1	20	-1.5	30.905
D89069	BAA19007	NP_001748	NM_001757	85	Inducible carbonyl reductase		2396.6	1565.7	-1.5	1.53068915
D80401	BAA14397	XP_012353	XM_012353	75	Dihydroipoamide succinyltransferase	E01415	3302.9	2255.3	-1.5	1.46450583
NM_031154	NP_112416	NP_000839	NM_000848	84	Rattus norvegicus glutathione S-transferase, mu type 3	H33001	4328.1	2880.8	-1.5	1.50274228
AK016160	XP_030759	XP_030759	XM_030759	89n	Mouse RIKEN; Human hypothetical protein		3967.4	2604.5	-1.5	1.52328662
H33086					Mus musculus, Similar to protein kinase, cAMP dependent regulatory, type I beta, clone MGC:16526 IMAGE:3674751		31376.4	21311.8	-1.5	1.47225481

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

H33093	NP_031824	XP_003584 XP_044348	XM_003584 XM_044348	No Human	EST(not recognised)	H33426	2003.4	1358.3	-1.5	1.4749319
NM_007798	AAA41099 P11730			89	Mus musculus cathelin B Dihydropteridine reductase Rat calmodulin-dependent protein kinase II gamma subunit mRNA, complete cds		2944.6 8265.3	1488.8 5667.4	-1.5 -1.5	1.9778345 1.45839362
J04503 K00750	AAA41917 AAA21711	NP_066283 NP_061820	NM_021003 NM_018947	91 98	Protein phosphatase 2c chrome c nuclear-encoded mitochondrial gene and flanks	AI008815	3558.4 1337.9	2446.7 760.7	-1.5 -1.5	1.45436711 1.75877481
NM_031043 L03294 L07925	NP_112305 Q06000 Q03386	AAB09762 LIHUL Q12967	U31525 M15856 U14417	91 90n 92	Glycogenin Lipoprotein lipase Rat guanine nucleotide dissociation stimulator	L01793	6584.3 7189.3 1877	4378.3 4688.2 1287.6	-1.5 -1.5 -1.5	1.49896572 1.53348833 1.45775085
L11025				89			17631.9	11921.9	-1.5	1.4789505
L23148	AAA20403	BAA02989	D13890	No Human	Rat T-cell receptor alpha chain mRNA for RT1L haplotype		736.4	767	-1.5	0.9601043
L24051	AAA41759	AAF19643	AF208502	88	Rattus norvegicus inhibitor of DNA- binding, splice variant I d1.25		1818.2	1190.5	-1.5	1.52725745
L26268	AAA85779	NP_001722	NM_001731	91	Transcription factor		1083.3	733.5	-1.5	1.47889162
M15474	AAA21801	NP_000357	NM_000366	99	Anti-proliferative factor (BTG1)		2844.8	1977.4	-1.5	1.48922828
M15481	AAA41387	XP_052652	XM_052652	81	Alpha-tropomyosin gene, exon 11		7266.7	5337.1	-1.5	1.36154466
M18331	AAA41872	NP_005391	NM_005400	92	Insulin-like growth factor I (IGF-I)		4363.6	2830.7	-1.5	1.53799414
M19357	AAA40988	NP_008822	NM_008891	98	Protein Kinase C epsilon		1817.3	2548.3	-1.5	0.71314209
M24104	AAA42322	NP_055048	NM_014231	76	Rat gamma-F-crystallin (gamma 4-1)		1039.3	686.1	-1.5	1.51478376
M27207		NP_000079	NM_000088	88	Vesicle associated membrane protein (VAMP-1)		8839.3	5852.8	-1.5	1.51026859
M27467	AAA79270	Homology too low for human		91n	Rattus norvegicus (clone pL6-3-1) alpha-1 type I collagen mRNA, 3' UTR		60274.4	41381.3	-1.5	1.45726561
M28648	AAA41672	XP_009351	XM_009351		Heart cytochrome oxidase subunit Vlc (COX-Vlc)		3759.4	2465.1	-1.5	1.53126146
M34134	AAA42253	CAA27243	X03641	63	Na,K-ATPase alpha-2 subunit mRNA, 5' end		3298.5	2260.1	-1.5	1.45856378
M34331				65	Alpha-tropomyosin (TMBF-2)		27548.1	12814.8	-1.5	2.14970871
M58758	AAA41982	NP_005168	NM_005177	91	Sequence intentionally withdrawn. Rat proton pump polypeptide		11124 2873.9	7227.4 2032.8	-1.5 -1.5	1.53914271 1.46286575

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

M60322	AAA40721	NP_001619	NM_001628	85	Aldehyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)	15401.7	7231.2	-1.5	2.12889545
M60322	AAA40721	NP_001619	NM_001628						
M62388	AAA21087	CAA37339	X53251	85	Aldehyde reductase 1 (low Km aldose reductase) (5.8 kb PstI fragment, probably the functional gene)	6728.4	4516	-1.5	1.48980257
M65148	AAA42013	XP_027216	XM_027216	100	Ubiquitin conjugating enzyme	2467.7	1865.2	-1.5	1.48182409
M74439				73	Rat RAITF2	862.1	566.2	-1.5	1.52280885
M76426	AAC42062	I68600	M96860		UDP glucuronosyltransferase gene, complete cds	4653.6	4236.1	-1.5	1.09855764
M95591	Q02769	P37268	S76822	93	Dipeptidylpeptidase 6	2799.8	1813.4	-1.5	1.54395059
S58892	AAB20211	XP_033168	XM_033168	86	Farnesyl diphosphate farnesyl transferase 1	5203.8	3580.2	-1.5	1.45349422
S61973	AAB36043	AAB94292	U44954	92	La=autoantigen SS-B/La	2121.1	1379.5	-1.5	1.53756608
S77800	AAB34127	XP_009501	XM_009501	68	NMDA receptor glutamate-binding subunit	20271	14869.5	-1.5	1.36326037
S81497	AAB36043	AAB60328	U08464	96	myosin regulatory light chain isoform C; myosin RLC isoform C	3727.2	2446.2	-1.5	1.52366938
S82649	AAB46783	AAH09924	BC009924	72	Lysosomal acid lipase=intracellular hydrolase	932.6	769	-1.5	1.21274382
S82911	AAB46839	NP_073207	NM_022716	88	Narx=neuronal activity-regulated pentraxin	2014.5	3038.7	-1.5	0.66294797
S87522	AAB21778	NP_000886	NM_000895	95	rHox=rHox protein	1323.8	871.9	-1.5	1.51828338
S87522	AAB21778	NP_000886	NM_000895	87	Leukotriene A4 hydrolase	10206.2	6812.6	-1.5	1.49813581
U03390	AAA18951	NP_006089	NM_006098	87	Leukotriene A4 hydrolase	2800.4	5808.8	-1.5	0.48209613
U13176	AAA85101	NP_003330	NM_003339	99	Protein kinase C receptor	9701.4	7676.3	-1.5	1.26381199
U17697	Q64654	AAB39951	U23942	100	ubc2e ubiquitin conjugating enzyme (E217kD)	1224.7	967.1	-1.5	1.26636335
U20796	AAAG2508	BAA20088	D16815	93	Cytochrom P450 Lanosterol 14 alpha-demethylase	12716.8	8764.8	-1.5	1.45089449
U27201	AAA75002	NP_000353	NM_000362	86	Nuclear receptor Rev-ErB-beta	944.4	820.1	-1.5	1.52298016
U31352	AAA81023	NP_002331	NM_002340	95	Tissue Inhibitor of metalloproteinase 3 (TIMP-3)	2348.3	1844.8	-1.5	1.27292831
U32681	A57190	I38006	Z22971	82	Oxidosqualene cyclase	2777.9	2159.5	-1.5	1.28636258
				40	Crp=ductin	7173.7	2763.7	-1.5	2.59568694

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

U34843	g1236114	g3551742	U27112	93	Rattus norvegicus cell cycle progression related D123 mRNA, complete cds (13 on d.s.)	2146	1667	-1.5	1.28734253
U34843	g1236114	g3551742	U27112	93	Rattus norvegicus cell cycle progression related D123 mRNA, complete cds (13 on d.s.)	1970.3	1352.1	-1.5	1.4572147
U38180	AAC81788	XP_036183	XM_036183		Reduced folate carrier membrane glycoprotein	1160.9	2524.8	-1.5	0.4597888
U39572	AAD10400	P42356	L36151	98	Phosphatidylinositol 4-kinase	3552	2445.8	-1.5	1.45228555
U45479	AAB60525	NP_003886	NM_003886	87	Synaptotagmin	5938.4	4032.7	-1.5	1.47280978
U52102	AAB03280	NP_001304	NM_001313	89	rCRMP-1 mRNA	7824.6	5204.7	-1.5	1.48494515
U58242	AAB50063	AAC27038	AF055377	98	Transcription factor Maf2 mRNA	2299.6	1539.1	-1.5	1.49411894
U60977	AAC98708	NP_005794	NM_005803	83	Fliotillin 1	14787.6	9884.9	-1.5	1.49597872
U67207	S74225	2211404A	U52912	87	Leptin receptor (fatty)	2319	1598.4	-1.5	1.45264345
U67995	AAB39620			No					
U70476	AAC52898	NP_003036	NM_003045	Human	Stearyl-CoA desaturase 2 mRNA	35115.6	22285.8	-1.5	1.57589394
U75411	AAB51477	CAA40956	X57819	81	Cationic amino acid transporter-1	1237.8	843.7	-1.5	1.46710916
NM_012656	NP_036788	NP_003109	NM_003118	53	Anti-Idiotypic Immunoglobulin M light chain	1434	715.7	-1.5	2.00363281
U81492	AAC17704	NP_000579	NM_000588	83	SPARC	68640.7	45817.4	-1.5	1.45448454
U87306	AAB57679	AAC67491	AF056634	29	Interleukin-3 beta	3164.6	500.2	-1.5	6.32868933
U90610	AAB50408	CAA12166	AJ224869	62	Transmembrane receptor Unc5H2	7394.5	4906.5	-1.5	1.50708244
U95727	AAB64094	NP_005871	NM_005880	90	CXC chemokine receptor (CXCR4) mRNA	3294.6	2145.3	-1.5	1.53572827
U97142	Q82997	P56159	U59486	86	DnaJ homolog 2 mRNA	1323.9	1051.2	-1.5	1.25941781
V01218	P02764	P02763	X02544	92	Glia1 cell line-derived neurotrophic factor receptor alpha (42 on d.s.)	2370.7	1598.8	-1.5	1.4827898
X04139	CAA27756	NP_002729	NM_002738	51	Rat messenger encoding alpha-1-acid glycoprotein	782.4	524.8	-1.5	1.49085366
X05341	CAA28952	XP_030051	XM_030051	100	Protein kinase C	2570	1727.3	-1.5	1.48787124
X08889	3RABA	P20336	M28210	87	3-oxoacyl-CoA thiolase	6255.4	3523.3	-1.5	1.49161298
X07551	CAA30488	XP_047792	XM_047792	98	Ras-related small GTP binding protein 3A	12454	8347.9	-1.5	1.49187221
X07648					Sequence intentionally withdrawn.	7345.9	4984.9	-1.5	1.47086009
					Amyloidogenic glycoprotein (rAG), cognate of human A4 amyloid precursor protein				
X08056	CAA30845	NP_000147	NM_000156	81	Guanidinoacetate methyltransferase	21040.8	14125.1	-1.5	1.48960361
				85		4795.9	2620.9	-1.5	1.82988676

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X12367	CAA30928	CAB37833	Y00483	86	Glutathione peroxidase I	11490.9	7541	-1.5	1.52378995
X12535	CAA31053	XP_031588	XM_031588	99	Ras-related protein p23	4338	2987.6	-1.5	1.45200181
X13722	CAA32001	AAF24515	AF217403	73	LDL-receptor precursor	2079.8	1380.5	-1.5	1.5065558
X14848					Mitochondrial genome	1804.9	1241.8	-1.5	1.45345488
X15086	CAA33199	NP_000893	NM_001002	94	Acidic ribosomal phosphoprotein P0	68106.6	45382.4	-1.5	1.45728944
NM_013059	NP_037191	XP_001826	XM_001826	91	Tissue-nonspecific ALP alkaline phosphatase	1105.4	745.7	-1.5	1.48236556
X16703	CAA34674	NP_000603	NM_000612	57	Insulin-like growth factor II	585.9	395.9	-1.5	1.47991917
X16933	CAA34808	AAA35781	M84630	81	hnRNP C protein	1017.6	699.3	-1.5	1.45516946
X51615		XP_007169	XM_007169	86	Connexin protein Cx26	1462.3	957.6	-1.5	1.52704678
X54081	CAA38018	NP_001852	NM_001861	79	RCO4-1 gene for cytochrome c oxidase subunit IV	25191.1	16905.8	-1.5	1.48008624
X54617	CAA38437	XP_041677	XM_041677	100	RLC-A gene for myosin regulatory light chain	4714.5	3154.9	-1.5	1.48434213
X55298	CAB56805	XP_009642	XM_009642	88	Rat ribophorin II mRNA	4849.6	3275.1	-1.5	1.48074868
X62875		XP_043244	XM_043244	88n	High Mobility Group Protein I (γ), 3' UTR	15175.9	10113.2	-1.5	1.50060317
X73653	CAA52020	NP_002084	NM_002093	95	Tau protein kinase I	1165.1	352.9	-1.5	3.30150184
X76489	CAA54027	NP_001760	NM_001769	79	CD9 mRNA for cell surface glycoprotein	32875.3	22225.6	-1.5	1.47016503
X76988	CAA54293	NP_008858	NM_006927	83	Gal beta 1,3-GalNAc alpha-2,3-sialyltransferase	882.1	592.3	-1.5	1.48927908
X77834	CAA54906	NP_001633	NM_001642	79	Amyloid precursor-like protein 2	5226.8	3456.9	-1.5	1.51199051
X80290	CAA56564	XP_012740	XM_012740	80	Adenylate cyclase activating peptide	2240.1	2589.3	-1.5	0.87187172
X82152	CAA57648	XP_001782	XM_001782	81	Fibromodulin	577.5	388.3	-1.5	1.48725212
X84039	CAA58858	NP_002336	NM_002345	80	Lumican	10431.1	6746.6	-1.5	1.54612694
Y17608	CAA76804	XP_009523	XM_009523	78	Potassium channel, alpha subunit (Kv9.1)	3135.5	1088.9	-1.5	2.93338947
Z12298	CAA78170	NP_001911	NM_001920	74	Dermatan sulfate proteoglycan-I (decorin)	24967.7	18776.9	-1.5	1.48821892
Z17319	CAA78987	AAH01804	BC001804	93	Phosphoglyceromutase	1976.1	1282	-1.5	1.52848916
Z29072	CAA82313			Human too low		626.4	366.4	-1.5	1.70960699
AK005159	BAB23860	AF125533	AAF17227	84	Mucin	8773.1	6494.3	-1.4	1.35086232
AK003201	BAB22637	XP_006307	XM_006307	81n	NADH-cytochrome b5 reductase isoform Mouse RIKEN; Human hypothetical protein	970.1	680.2	-1.4	1.42619818

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NM_017340	NP_059036	AAH08767	BC008767	85	Rattus norvegicus acyl-coA oxidase Human Clone	AA799489	9095.5	6319.9	-1.4	1.43918416
AA798511		AAC09039	AC004520	97n	EST(not recognised)		688.5	517.1	-1.4	1.35273641
AA798515		XP_008884	XM_008884	91n	Mus musculus, Similar to small nuclear ribonucleoprotein D3	AA799526	4536.6	6190.8	-1.4	0.73282073
BC011610	AAH11610	XP_036765	XM_036765		Mus musculus splicing factor Sc35 (Pr264) mRNA, 3'UTR, alternatively spliced	AA799538	2728.3	1892.5	-1.4	1.44216645
AF250133		Q93075	D86972	93n	ESTs, Moderately similar to PUTATIVE DEOXYRIBONUCLEASE KIAA0218 [H.septiens]		2336.8	1655.5	-1.4	1.4115373
AA798581		XP_036350	XM_036350	89	Mus musculus cysteine and histidine-rich protein	AA799721	1332	2691.3	-1.4	0.4949281
NM_019396	NP_062269	NP_000871	NM_000880	93n	Rat mRNA for ribosomal protein L18a	AA799899	1005.4	722.9	-1.4	1.39078711
X14181	CAA32385			99	Mus musculus guanine nucleotide binding protein (G protein), gamma 10	AA799998	45447.2	34176.4	-1.4	1.35904308
NM_025277	NP_078553			Human too low	EST (not recognised)		4491.4	2138.1	-1.4	2.10085011
AA800034	AAC52608	XP_040847	XM_040847	95n	Mus musculus poly(A) polymerase VI mRNA	AA800298	7527.4	5385.1	-1.4	1.39781991
U68134	BAB27481		AF147398	97n	Homo sapiens full length insert cDNA clone		868.5	699.9	-1.4	1.24089156
AA800637		NP_000344	NM_000353		EST(not recognised)	AA800750	1053	772.6	-1.4	1.3631068
AA800749				90	Rattus norvegicus gene encoding tyrosine aminotransferase		5240.6	3798	-1.4	1.37944188
AJ010709	CAA08309				Mus musculus 10 day old male pancreas cDNA, RIKEN		3118.3	2225.4	-1.4	1.40123124
AA800794					EST (not recognised)		1009.8	1427.1	-1.4	0.70758882
AA800803					Mouse RIKEN	AA800822	4274.5	5141.2	-1.4	0.83142068
AK005487	BAB24073	NP_005557	NM_005576	85n	Mus musculus lysyl oxidase-like 1	AA800844	1912.1	1393.3	-1.4	1.37235341
AF357006	AAK97375	CAC14588	Y14436		Rattus norvegicus phosphatidate phosphohydrolase type 2	AA818593	4127.8	3056.4	-1.4	1.35054312
U90556	AA850246			83	Rattus norvegicus putative G-protein coupled receptor GPCR91	AA848831	6929.8	4928.1	-1.4	1.40618088
AF080347	AAG24469	XP_005557	XM_005557	95	Rattus norvegicus ribosomal protein L21 mRNA	AA849648	3864.5	2731.2	-1.4	1.41494581
M27905	AAA41504	AAA85655	U14967	98	Rattus norvegicus anti-idiotypic immunoglobulin M light chain	AA850138	1359.9	1005.8	-1.4	1.35205806
U75411	AA851477	CAA40956	X57819	53			4913.1	3600.1	-1.4	1.36471209

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AF148611	NP_008658	NM_008987	84(mus)	Mus musculus hermes mRNA	AA859519	1349.6	762.8	-1.4	1.76927111
AA859672	XP_040014	XM_040014	86n	Homo sapiens hypothetical protein MGC3103		3302.4	2348.7	-1.4	1.40605441
AA859705	XP_048017	XM_048017	92	Homo sapiens hypothetical protein DKFZp761G2113		3711.2	2724.1	-1.4	1.36235821
AA859750				EST (not recognized)		1392.4	707.8	-1.4	1.96777841
AA859832				Mus musculus 18 days embryo cDNA, RIKEN		1330.8	617.1	-1.4	2.15653865
AA859878				EST (not recognized)		7709.1	4852.8	-1.4	1.58865351
AK003842				Mouse RIKEN	AA886371	4865.5	4816.4	-1.4	1.01019434
NM_030261	BAB23031 NP_084537		No		AA874873	1172	861.8	-1.4	1.3599443
AA874926			Human	Mouse Hypothetical Protein					
AA874927				Homo sapiens mRNA; cDNA DKFZp434M1616		4178	2818.5	-1.4	1.432539
AA875017				EST (not recognized)		2852.1	2001.7	-1.4	1.42483889
AA875127	BAB26250	CAC10401	92n	EST (not recognized) CDC2L5 protein kinase (Rat EST; mouse hypothetical protein)		12515	5752	-1.4	2.17576495
AA875268	XP_027422	XM_027422		ESTs, Highly similar to NUKM_HUMAN NADH-UBIQUINONE OXIDOREDUCTASE 20 KDA SUBUNIT PRECURSOR [H.sapiens]		1550.6	1139.9	-1.4	1.36029476
AA875425			86	Human DNA sequence from clone RP6-1169J3		7181.2	5127.6	-1.4	1.40049826
AA875496				Mus musculus 10 days neonate cerebellum cDNA, RIKEN		3080.8	2282.2	-1.4	1.36186014
NM_019128	NP_082001	NP_116116	71	Intermedin, alpha	AA875659	504.3	373.1	-1.4	1.35164835
NM_012656	NP_036788	NP_003109	83	Secreted acidic cysteine-rich glycoprotein	AA891204	1824.3	1161.7	-1.4	1.39820952
AA891207				EST (not recognized)		8944.7	7433	-1.4	1.33781201
AK018016	BAB31038	XP_035638	88n	Mouse RIKEN; Human hypothetical protein	AA891209	7588.1	5457.3	-1.4	1.39044849
AA891727	XP_042640	XP_042640	92n	EST (hypothetical protein)		2133.9	1473.9	-1.4	1.44779157
NM_018768	NP_062742	XP_034440	91n	Mus musculus MORF-related gene X	AA891789	2088.8	1511.3	-1.4	1.36741481
AA891796				Mus musculus ES cells cDNA, RIKEN		8200.5	5974.1	-1.4	1.37267538
NM_021540	NP_067515	XP_003972	89n	Mus musculus g1-related zinc finger protein	AA891810	8750	6110.2	-1.4	1.43203168
						2537.4	1857.7	-1.4	1.36588254

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NIM_021640	NP_067616	XP_003972	XM_003972	89n	Mus musculus g1-related zinc finger protein	AA891810	1410.2	749.2	-1.4	1.88227443
AA891812	S54147	S18207	X58141	94	ESTs, Highly similar to S54147 alpha adducin - rat [R.norvegicus]		4809.2	3359.4	-1.4	1.37243926
NIM_022545	NP_071990	XP_008138	XM_008138	92	Phosphoribosylpyrophosphate synthetase-associated protein	AA891871	3143.7	2205.2	-1.4	1.42559498
NIM_010413	NP_034643	XP_028575	XM_028575	86n	Mus musculus histone deacetylase 6	AA892036	2188.5	1514.9	-1.4	1.44484981
AA892049					EST (not recognized)		2761.4	2005.2	-1.4	1.37711949
AA892083					EST(not recognized)		2783.6	1960	-1.4	1.42020408
AK013082					Mouse RIKEN with low homology to MAD4 homolog (Homo sapiens)	AA892154	2509.9	1085.2	-1.4	2.31284556
AA892425					Mus musculus 11 days embryo cDNA, RIKEN		1152.7	827.6	-1.4	1.39282262
AA892486	A36690	A32609	Y00839	79	ESTs, Weakly similar to A36690 sucrose alpha-glucosidase [R.norvegicus]		10219.9	7225.4	-1.4	1.41444072
AA892486		XP_041304	XM_041304	93n	Weak homology with Homo sapiens chimerin (chimaerin) 2 (CHN2)		1867.8	1313.8	-1.4	1.42167758
AA892522		XP_032836	XM_032836	86n	EST (not recognized)	AA892554	1197.9	847	-1.4	1.41428571
AA892554					Homo sapiens similar to RAS-GTPASE-ACTIVATING PROTEIN BINDING PROTEIN 2		2094.5	1547.2	-1.4	1.35373578
Z34922	CAA84402	NP_001354	NM_001363	81	R.norvegicus mRNA for nucleolar protein NAP57	AA892562	2793.6	2026.2	-1.4	1.37873853
NIM_025363	NP_079639	AAH08467	BC008467	90n	Mouse RIKEN; Human hypothetical protein	AA892572	3071.6	2183.9	-1.4	1.40847466
AA892635	TVRTRH	NP_004126	M31470	99	Ras-like protein		4837.3	2479	-1.4	1.95131101
X74125	CAA52225		NM_004135	86	R.norvegicus mRNA for NAD+-isocitrate dehydrogenase, gamma subunit	AA892808	2539.7	1876	-1.4	1.35378465
NIM_011962	NP_036092	NP_001075	NM_001084	87n	Mus musculus procollagen-lysine, 2-oxoglutarate 5-dioxygenase 3	AA892859	5038.5	3588.3	-1.4	1.40414681
AA892888					EST (not recognized)		4324	5673.3	-1.4	0.76216864
NIM_009386	NP_033412	XP_007585	XM_007585	88n	Mus musculus tight junction protein 1	AA892918	3118.7	1881.6	-1.4	1.65747236
NIM_008942	NP_032868	XP_032201	XM_032201	90n	Mus musculus puromycin-sensitive aminopeptidase	AA893065	7118.1	4986.3	-1.4	1.42467426

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AA893183	XP_017866	XM_017866	84n	Homo sapiens hypothetical protein FLJ12529	AA893202	2354.5	1846.6	-1.4	1.42891619
NM_007457	NP_031483	XP_051246	86n	Mus musculus adaptor protein complex AP-1, sigma 1	AA893202	5046.5	3488.8	-1.4	1.44235186
AA893230				Mus musculus adult male tongue cDNA, RIKEN		959.3	702.7	-1.4	1.36516294
AA893353				ESTs, Weakly similar to T15946 hypothetical protein F01F1.9 [C.elegans]		6084.5	5152.4	-1.4	1.18284883
NM_013160	NP_037292	XP_045326	73	Rattus norvegicus Max interacting protein 1	AA893611	5276.1	4054	-1.4	1.30145535
BC004091		Homology too low for Humans			AA893643	7618.1	5616.7	-1.4	1.35633023
NM_018435	NP_062308	AAH10665	86n	Mouse Clone	AA893690	2481.3	2045.5	-1.4	1.21305304
AF229439	AAF91268	XP_037147	85n	Mus musculus neuronal protein 15.6	AA893741	4313.4	2980.1	-1.4	1.44740109
AK010212				Mus musculus zinc finger protein 289	AA893743	2821.7	2044.2	-1.4	1.38034439
AA893869				Mouse RIKEN		1938.9	1886.5	-1.4	1.02777631
				ESTs, Weakly similar to T16084 hypothetical protein F16H11.1 [C.elegans]		5591.4	3972.5	-1.4	1.40752675
D32249	BAA06979	XP_003693	78	Rattus norvegicus mRNA for neurodegeneration associated protein 1	AA894089	1720.2	1244.9	-1.4	1.38179773
AF305619	AAL09361	NP_006550	63	Nuclear RNA binding protein Sam68	AA894160	6265.5	4638	-1.4	1.35148835
AA899253	P36188	P50458	92	Myristoylated alanine-rich protein kinase C substrate		7508.7	7861.8	-1.4	0.98001775
AA899320		XP_028314	82n	Homo sapiens NADH dehydrogenase		3101.4	2250.1	-1.4	1.37833874
NM_012974	NP_037106	CAA56130	81	Rattus norvegicus Laminin chain beta 2	AA900848	19747.9	13875.3	-1.4	1.44405607
L78075	AAB40051	XP_017159	95n	Mus musculus Cdc42 gene	AA925473	3227.2	2359.7	-1.4	1.36763148
X53565	CAA37637	AAC39542	44	Rat mRNA for trans-Golgi network integral membrane protein TGN38	AA926292	921.7	677.8	-1.4	1.35984086
AK013911	BAB28050	NP_055148	80n	Homo sapiens immunoglobulin superfamily, member 4; Mouse RIKEN	AA933181	1562	1104	-1.4	1.41485507
NM_024152	NP_077066	NP_001654	100	Rattus norvegicus ADP-ribosylation factor 6	AA944324				

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

X75207	CAA53020	AAH00076	BC000076	83	CCND1 mRNA for cyclin D1	AA957218	1829.7	2896	-1.4	0.63180249
D00636	BAA00530	NP_000389	NM_000398	83	NADH-cytochrome b5 reductase	AA963839	6815.5	5037.4	-1.4	1.35287971
AB000280	g2208839	Q16348	S78203	23	Peptide/histidine transporter		1812.2	1316	-1.4	1.37705167
AB004098	BAA20354	Q16850	U23942	89	Lanosterol 14-demethylase	AA963449	4884	3450.4	-1.4	1.41548806
AB006914	BAA22191	NP_004231	NM_004240	78	Rattus norvegicus mRNA for salt-tolerant protein		1555.4	1987.1	-1.4	0.78274873
AB010468	BAA28954	NP_001162	NM_001171	73	Rattus norvegicus mRNA for multidrug resistance-associated protein (MRP)-like protein-1		1408.8	1035.5	-1.4	1.35857074
AB011679	BAA32736	AAC28842	AF070561	95	Class I beta-tubulin		1505.2	1104.8	-1.4	1.36241854
AB015432	BAA33035	NP_003477	NM_003486	83	LAT1 (L-type amino acid transporter 1)		10494.3	4637.2	-1.4	2.26308823
AB015946	A25113	UBHUG	M61764	98	Rattus norvegicus mRNA for tubulin, complete cds		3704.8	2084.6	-1.4	1.77722345
AB016160	Q9Z0U4	Q8UBS5	AJ225028	97	Gamma-aminobutyric acid (GABA) B receptor, 1		4928.3	3630.5	-1.4	1.35747142
AB016160	Q9Z0U4	Q8UBS5	AJ225028	97	Gamma-aminobutyric acid (GABA) B receptor, 1		4751.1	3460.6	-1.4	1.37291221
AB016800	BAA34308	XP_006067	XM_006067	82	7-dehydrocholesterol reductase		5720	2787.7	-1.4	2.04453658
AB017170	BAA35187	BAA35184	AB017167	86	Rattus norvegicus mRNA for Slt1-1 protein, partial cds		3105.6	2222.8	-1.4	1.39715674
AF008439	AAC53319	NP_000608	NM_000817	78	natural resistance-associated macrophage protein 2		1808.1	1322.6	-1.4	1.36707999
AF008554	AAB63284	AAB18374	U42349	71	Rattus norvegicus implantation-associated protein (IAG2) mRNA, partial cds	AF009656	617.4	579.4	-1.4	1.06558509
AF001282	AAB65640	NP_000185	NM_000184	95	Hypoxanthine guanine phosphoribosyl transferase		2595.9	1814.3	-1.4	1.43079976
AF012714	AAC53453	XP_005866	XM_005866	84	Hepatic multiple inositol polyphosphate phosphatase		2222.5	1301.6	-1.4	1.70751383
AF013144	AAB94858	NP_004410	NM_004419	87	Rattus norvegicus MAP-kinase phosphatase (cpg21) mRNA, complete cds		606.4	842.6	-1.4	0.71867719
AF016178	AAC53325	Homology too low for Humans			Putative pheromone receptor (Go-VN1)		1422	584.3	-1.4	2.43366133
AF020211	AAB71236	NP_005681	NM_005680	83	DLP1 splice variant 1		2024.4	1416.7	-1.4	1.42895461
AF021923	AAC19405	XP_048312	XM_048312	84	Potassium-dependent sodium-calcium exchanger		2659.8	1938.7	-1.4	1.37195028

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

M18416	AAA61927	XP_033545	XM_033545	89n	Rattus norvegicus nerve growth factor induced factor A	AF023087	4680.3	3371	-1.4	1.38840107
AF027854	AAB87418	NP_055019	NM_014204	98	Bcl-2-related ovarian killer protein (Bok)		3453.7	2462.8	-1.4	1.40234692
AF030558	AAC40202	NP_003550	NM_003559	56	Phosphatidylinositol 5-phosphate 4-kinase gamma		1882.5	1380.5	-1.4	1.38368247
AF034237	AAD01980	BAA74828	AB020712	79	EST also named DD8A4-1 mRNA		5598.5	3582.5	-1.4	1.57150877
AF034582	AAC68839	NP_054778	NM_014059	74	Vesicle associated protein (VAP1)		2517.4	1774.8	-1.4	1.41841334
AF036548	AAD02476	NP_003385	NM_003374	74	RGC-32		1984.8	1452.7	-1.4	1.37316721
AF048828										
AF051425	AAC05574	NP_008948	NM_007015	93	Rattus norvegicus voltage dependent anion channel (RVDAC1)		1267.4	896.8	-1.4	1.4132471
AF058795	AAC63994	AAD46887	AF098033	88	Chondromodulin-1 (Chm-1)		8151.4	7394.2	-1.4	1.10240459
AF064868	AAC63287	NP_065887	NM_020836	95	GABA-B receptor gb2		6787.1	4842.4	-1.4	1.40366347
AF067795	AAC79427	NP_001319	NM_001328	79	Brain-enriched guanylate kinase-associated protein 1		1840	1285.6	-1.4	1.43123833
AF074609	AAC33332		No Human	90	BFA-dependent ADP-ribosylation substrate		7144.1	6201.1	-1.4	1.37357482
AF076183	AAC31815	XP_006499	XM_006499	90	MHC class I antigen (RT1. EC3) gene		11893.7	8256.4	-1.4	1.41631948
AF078162	AAC99398	NP_000255	NM_000264	92	Cytosolic sorting protein PACS-1a		3227.3	2359.4	-1.4	1.36784776
AF083269	O88656	O15143	AF006084	92	Rattus norvegicus patched (ptc) mRNA, partial cds		3083.1	2211	-1.4	1.39895975
AF087431	AAC36477	XP_035229	XM_035229	96	Actin-related protein complex 1b (14 on d.s.)		3358.4	2482.8	-1.4	1.36365113
AF087437	AAC78485	NP_074036	NM_022845	78	Glycoprotein processing glucosidase I		2555.8	1771.6	-1.4	1.44285071
AF087697	AAC35371	XP_008354	XM_008354	89n	PEBP2 beta mRNA, 3' UTR		21528.8	15828.6	-1.4	1.35999394
AF087843	AAC63367	NP_000582	NM_000591	97	dig 3		4211	2118.5	-1.4	1.98772717
AF093139	AAC97497	XP_043248	XM_043248	84	CD14 mRNA		1434.1	1037.7	-1.4	1.38199865
AF095927	AAC72384	NP_110395	NM_030768	84	Rattus norvegicus tip associating protein (TAP) mRNA		3212.3	2278.8	-1.4	1.40864543
AF097723	CAA48904	NP_057218	NM_016134	87	Protein phosphatase 2C mRNA		1327.7	970.4	-1.4	1.36819868
AI007824		AAB18284	U74324	83	Rattus norvegicus hematopoietic lineage switch 2 related protein		3324.1	1932.3	-1.4	1.72028153
AI007824		AAB18284	U74324	91	R. norvegicus mRNA for Mss4 protein		164159.2	113399.6	-1.4	1.4476171
AI007824		AAB18284	U74324	91	R. norvegicus mRNA for Mss4 protein		55098	40702.7	-1.4	1.35366841

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

S45392	AAB23369	NP_031381	NM_007355	85	Heat shock protein 90	AI008074	15494.1	11103.4	-1.4	1.39543743
AI009147	CAB96537	NP_002406	AJ249880	86	EST (human hypothetical protein)	AI009801	3461.3	1687.6	-1.4	2.0510182
NM_031051	NP_112313	NP_002406	NM_002415	95	Rattus norvegicus macrophage migration inhibitory factor (Mif)	AI009801	5403.7	4589.3	-1.4	1.18261003
AI012275	g310100	g3294180	Z99129	40	Developmentally regulated protein mRNA	AI014087	958.1	936.9	-1.4	1.02262782
NM_013224	NP_037356	XP_015318	XM_015318	100	Rattus norvegicus ribosomal protein S26	AI014169	20479.9	14848.3	-1.4	1.37827574
U30789	NP_071633	NP_038269	NM_012137		Rattus norvegicus clone N27	AI058941	10327.2	7535.5	-1.4	1.37047309
NM_022297	NP_071633	NP_038269	NM_012137		Rattus norvegicus NG,NG dimethylarginine					
AI059291	P12368	P13861	X14968	93	dimethylargininohydrolase		1091.1	1790.1	-1.4	0.60951902
NM_012959	NP_037091	NP_005255	NM_005264	87	Protein kinase, cAMP dependent regulatory, type II alpha	AI070721	3039.9	2171	-1.4	1.40023031
NM_012903	NP_037035	NP_006296	NM_006305	92	Rattus norvegicus Glial cell line-derived neurotrophic factor receptor alpha		2638.2	1898.7	-1.4	1.38947701
AK017379	NP_037035	NP_006296	NM_006305	81	Rattus norvegicus Acid nuclear phosphoprotein 32 (leucine rich)	AI070967	3330.1	2424.6	-1.4	1.37346366
M24542	AAA42051	NP_005994	NM_006003	85	Mouse RIKEN	AI103874	2273	1685.7	-1.4	1.43343634
AF012714	AAC53453	XP_005866	XM_005866	84	Rat Rieske Iron-sulfur protein	AI103911	6932.2	4832.2	-1.4	1.43458466
NM_012637	NP_036769	NP_002818	NM_002827	84	Hepatic multiple inositol polyphosphate phosphatase	AI111401	1161.2	846	-1.4	1.37257683
NM_031020	NP_112282	XP_043351	XM_043351	81	Rattus norvegicus Protein-tyrosine phosphatase	AI113289	1076.8	772.1	-1.4	1.394638
NM_031719	NP_113907	NP_001284	NM_001293	94	p38 mitogen activated protein kinase (MapK14)	AI137862	6631.6	3548	-1.4	1.86910936
NM_031616	NP_113804	NP_001284	NM_001293	78	Rattus norvegicus chloride channel current inducer	AI169005	1488.3	1041	-1.4	1.4104707
M60523	AAA37818	NP_002158	NM_002167	54	Rattus norvegicus zinc finger protein 265	AI170808	2874.1	2059.5	-1.4	1.3955329
J01436	AAA99907	NP_002158	NM_002167	83	Mouse helix-loop-helix protein (Id related)	AI171288	5236.5	3724.1	-1.4	1.40611154
M26594	AAA41563	AAB01380	L34035	No	Cytochrome B gene	AI171355	73530.7	53883	-1.4	1.36463634
AI175935	AAA41563	AAB01380	L34035	Human	Rattus norvegicus malic enzyme	AI171506	2557.8	1886.4	-1.4	1.35591603
BC004671	AAH04671	NP_000782	NM_000801	88	Mus musculus adult male cecum cDNA, RIKEN		1844.9	1316	-1.4	1.4018997
				97(mus)	Mus musculus, FK506 binding protein 1a	AI176170	18902.6	13099.4	-1.4	1.44301266



Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

BC012522	AAH12522	AAH11890	BC011890			AI176422				
AI176480				94n	Mouse RIKEN; Homo sapiens, Similar to electron-transferring-flavoprotein dehydrogenase	AI176422	1830.7	454.9	-1.4	4.02440097
AF013598	AAB69328	NP_004760	NM_004769		Rattus norvegicus genes for 18S, 5.8S, and 28S ribosomal RNAs		4677.5	4755.5	-1.4	0.98359794
AI230130	g2648049	AAD40239	AF144748	80	Rattus norvegicus proton gated cation channel DRASIC mRNA	AI179632	7049.9	5096.9	-1.4	1.38317409
NM_013060	NP_037192	XP_002273	XM_002273	82	Testicular ecto-ATPase	AI230256	3764.1	2627.2	-1.4	1.42893575
				97	Rattus norvegicus Inhibitor of DNA binding 2, dominant negative helix-loop-helix protein (Id2)		2840.2	1873.4	-1.4	1.43924192
AK012833		XP_039754	XM_039754	95n	Mouse RIKEN; Homo sapiens RAB10	AI230406	10452.5	8898.5	-1.4	1.17463617
U20525	AAA62507	NP_003286	NM_003285	95	Rattus norvegicus lens epithelial protein	AI230748	77943.8	47163.8	-1.4	1.65261917
NM_017322	NP_059018	AAA56631	L31951	92	Rattus norvegicus stress activated protein kinase alpha II	AI231354	521.6	20	-1.4	26.08
NM_016988	NP_059684	AAH03160	BC003160	86	Rattus norvegicus Acid phosphatase 2, lysosomal	AI234950	1698.4	1197.2	-1.4	1.4186435
AI235707					Double cDNA (calnexin and p62 dynactin)		3286.9	2654.9	-1.4	1.2360504
NM_017182	NP_058678	XP_003835	XM_003835	89	Rattus norvegicus H2A histone family, member Y	AI237016	3068.5	3494.4	-1.4	0.87811828
AK003762		XP_051511	XM_051511	93n	Mouse RIKEN; Human hypothetical protein	AI237378	10656.6	7811.1	-1.4	1.36426928
AI639101					EST (not recognized)		1130.6	93.2	-1.4	12.1309013
AI639157				71	Deoxyribonuclease I (DNaseI) ??		4397.4	3039.4	-1.4	1.44679871
AI639176					EST (not recognized)		786.2	592.6	-1.4	1.36663234
AI639204					EST (not recognized)		905.6	364.7	-1.4	2.48313682
AI639207					EST (not recognized)		5992.1	4371.9	-1.4	1.37059402
AI639236					EST (not recognized)		1164.3	836.8	-1.4	1.39137189
AI639239					EST (not recognized)		702.9	504.5	-1.4	1.39326065
AI639345					EST (not recognized)		1498.5	705.8	-1.4	2.1231227
AI639461					EST (not recognized)		1714.1	1246.4	-1.4	1.37524069
AI639501		NP_113630	NM_031442		Hypothetical protein		4894.8	2746.8	-1.4	1.78200087
				88n	DKFZp761J17121 [Homo sapiens].		3387.9	4017.1	-1.4	0.84336859
AJ000485	CAA04123	XP_054486	XM_054486	78	CLIP-115		2395.9	1438.5	-1.4	1.6655544
AJ001290	CAA04650	XP_009743	XM_009743	93	Sodium myo-inositol transporter (SMIT)					

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

AJ007422	CAA07486	NP_006860	NM_006868	94	IP4/PIP3 binding protein	4384	3115	-1.4	1.40086308
D00569	BAA00446	NP_001350	NM_001359	81	2,4-dienyl-CoA reductase precursor	910.5	1085.2	-1.4	0.85476906
D13124	BAA02426	NP_005167	NM_005176	75	P2 mRNA for ATP synthase subunit c	17227	12011.3	-1.4	1.43423276
D13127	Q06647	CAA58219	X83218	81	Rattus norvegicus mRNA for oligomycin sensitivity conferring protein, complete cds	14754.5	16108	-1.4	0.91608717
D13309	BAA02569	AAA35750	M24070	59	DNA-binding protein B	9538.2	6835.3	-1.4	1.39543253
D14421	BAA03313	NP_004567	NM_004576	100	b isoform of B regulatory subunit of protein phosphatase 2A	1704.5	1200.2	-1.4	1.42017897
D21800	BAA04824	NP_002786	NM_002785	98	Proteasome subunit RC10-II	9685.8	6980.8	-1.4	1.3874914
D26073	BAA05088	XP_008138	XM_008138	92	Phosphoribosylpyrophosphate synthetase-associated protein (39 kDa)	3405.7	2434.2	-1.4	1.39910443
D28512	BAA05870	NP_116674	NM_032298	71	Synaptotagmin III	3468.3	2445.6	-1.4	1.41817859
D28683	BAA06152	XP_033687	XM_033687	90	Endothelin-converting enzyme	5383.1	3919.5	-1.4	1.37341498
D29860	BAA06227	NP_001876	NM_001885	46	AlphaB crystallin-related protein	618.3	1192.1	-1.4	0.51868454
D70817	BAA11087	NP_006642	NM_006651	56	Synaphin 2	9368.6	8435.4	-1.4	1.11062902
D83349	BAA11895	XP_008821	XM_008821	54	Short type PB-cadherin	16455.2	11964.7	-1.4	1.37531238
D83538	BAA18614	NP_002641	NM_002650	98	230kDa phosphatidylinositol 4-kinase	4756.1	3324.2	-1.4	1.43075026
D83948	BAA12144	AAH04181	BC004181	81	S1-1 protein	2535	1248.2	-1.4	2.03092453
D85435	BAA36277	AAK97528	AF408198	71	Protein kinase C delta-binding protein	10175.6	7031.9	-1.4	1.44706267
D86287	BAA13063	NP_001686	NM_001695	95	Erythroid-specific delta-aminolevulinic synthase	5939.4	4223.8	-1.4	1.40817453
D87336	BAA13333	NP_000377	NM_000386	93	Bleomycin hydrolase	4308.6	1615.2	-1.4	2.6662952
H31313					EST(not recognised)	6500.3	3704.8	-1.4	1.75456165
AC091616				No Human		832.1	776.7	-1.4	1.07132741
NM_025927	NP_080203	NP_115727	NM_032351	82n	Rat clone Mus musculus mitochondrial ribosomal protein L45	3349.2	2393	-1.4	1.39958211
H31648					EST (not recognized)	1693.8	1236.9	-1.4	1.36939122
H31722					EST (not recognized)	2997.1	2109	-1.4	1.42110005
H31802	S12207		No human		EST, Moderately similar to S12207 hypothetical protein [M.musculus]	1742.1	1222.4	-1.4	1.42514725
AK004235	BAB23231				Mouse RIKEN	7466.9	5342.4	-1.4	1.39768771
H31859					EST (not recognized), 4	675.1	489.7	-1.4	1.37858914



Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

M13100	AAA41609	AAA59783	M60334	64	MHC class II alpha chain RT1.D alpha (u)	8641.9	6184.1	-1.4	1.39743859
M13100	AAA41609	AAA59783	M60334	64	MHC class II alpha chain RT1.D alpha (u)	1791.6	1315.9	-1.4	1.36150163
M13100	P07808	P01303	K01911	93	Neuropeptide Y	1568.5	1095.1	-1.4	1.43228929
M13101	AAA40868	NP_009027	NM_007098	89	Clathrin light chain (LCA1).	7669.1	5564.4	-1.4	1.37824384
M15562	AAA40868	NP_009027	NM_007098	89	Clathrin light chain (LCA1).	5691.7	4324.5	-1.4	1.31615216
M16112	AAA41866	AAD42035	AF078803	95	Brain type II Ca <sup>2+</sup> /calmodulin-dependent protein kinase	2837.6	2015.6	-1.4	1.40781901
M17528	AAA40826	NP_066268	NM_020988	98	GTP-binding protein	2468.6	1777.8	-1.4	1.38857014
M18416	AAA61927	NP_001955	NM_001964	98	GTP-binding protein	18014.4	15928.8	-1.4	1.13094685
M18530	g204785	g425520	S65921	72	Nerve growth factor-induced protein	10025.6	7295.4	-1.4	1.37423582
M23601	AAA41566	NP_000889	NM_000898	70	Anti-acetylcholine receptor antibody gene, kappa-chain, VJC region	11471.5	6065.8	-1.4	1.89117676
M24542	AAA42051	NP_005994	NM_006003	83	Rat monoamine oxidase B (Maob/3)	26119.3	18326.1	-1.4	1.42532819
M25350	AAA41846	AAA03589	L20966	85	complete cds	1039	471.6	-1.4	2.20313825
M27925	AAA42100	NP_003169	NM_003178	98	cAMP phosphodiesterase (PDE4)	2234.6	1618	-1.4	1.38108776
M31032	AAA40989	NP_009175	NM_007244	81	synapsin 2a	3465.1	2131.2	-1.4	1.62689152
M31174	AAA41121	XP_050014	XM_050014	84n	Rat contiguous repeat polypeptides (CRP) mRNA, complete cds	13029.7	7718.1	-1.4	1.68820048
M31178	AAA40851	NP_004920	NM_004928	93	Rat c-erbA-alpha-2-related protein	546.2	448.5	-1.4	1.21783724
M32783	AAA41117	NP_077722	NM_024411	98	Rat calbindin D28	2831.7	1696.5	-1.4	1.86914235
M33648	AAA41336	NP_005509	NM_005518	59	Dynorphin	1177.8	882.3	-1.4	1.35588194
M34043	AAA42062	NP_066932	NM_021109	88	Mitochondrial 3-hydroxy-3-methylglutaryl-CoA synthase	10557	7739.2	-1.4	1.36409448
M38135	AAA63484	XP_044563	XM_044563	100	Thymosin beta-4 mRNA	1341.9	973.6	-1.4	1.37828677
				80	Cathepsin H (RCHII)	15228.7	10570.3	-1.4	1.44080111
						2680.7	1860.5	-1.4	1.44084923
						126166.3	89623.7	-1.4	1.40762209
						3269.1	2367.3	-1.4	1.38094031

AI103911

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

M57428	AAA42103	AAA36411	M60725	99	Rat S6 kinase mRNA	1719.5	678.6	-1.4	2.53389331
M57728	AAA41632	XP_054752	XM_054752		Rat general mitochondrial matrix processing protease (MPP) mRNA, 3' end				
M58758	AAA41982	NP_005168	NM_005177	83	Rat proton pump polypeptide	738.3	1293.2	-1.4	0.57090937
M59786	AAA64563	CAA84341	Z34810	91	Rat dihydropyridine-sensitive calcium channel alpha-1 subunit	5517.4	3892.3	-1.4	1.41751684
M61177	AAA63486	AAA36142	M84490	85	Rat extracellular-signal-regulated kinase 1 (ERK1)	3584.9	2621.7	-1.4	1.3673952
M62642	AAA41337	NP_000604	NM_000613	98	Rat (clone pRht1) hemopexin mRNA	38589.2	28547.8	-1.4	1.35173989
M62992	AAA41789	XP_008986	XM_008986	75	Glycoprotein p62	824	576.7	-1.4	1.42881914
M63485	AAA63955	XP_038204	XM_038204	57	Matrin 3	1474.1	1284.3	-1.4	1.14778479
M64301	AAA41125	AAL17605	AF420474	84	Extracellular signal-related kinase (ERK3)	3243.1	2371.3	-1.4	1.36764844
M69246	AAA41270	NP_004344	NM_004353	96	Collagen-binding protein (gp46)	2741.4	1959.6	-1.4	1.39895897
M76110	AAA42305	NP_001602	NM_001611	85	Tartrate-resistant acid phosphatase type 5	5770.5	3994.6	-1.4	1.44457518
M80904	AAA73144	AAB28524	AF070673	83	Unknown Protein	3283.1	2251.2	-1.4	1.4494936
M81639	AAA42025	AAC83231	M84820	76	Stannin mRNA	7923.4	5815.7	-1.4	1.36241553
M81766	AAA91899	XP_053253	XM_053253	80	Nuclear receptor co-regulator 1 (RCOR-1)	4341.8	3151.2	-1.4	1.37782432
M89945	AAA40924	XP_002636	XM_002636	86	Farnesyl diphosphate synthase	2163.2	1548.7	-1.4	1.3967844
M91595	AAA40924	XP_002636	XM_002636	84	Insulin-like growth factor binding protein-2 gene, exon 1	27448.4	19259.5	-1.4	1.42518757
M95768	1903159A	NP_004379	NM_004388	64	di-N-acetylchitinase	3442.9	2382.1	-1.4	1.44532138
S45812	1903159A	P21397	M68840	82	ESTs, Highly similar to 1903159A monoamine oxidase A [R.norvegicus]	964.7	707.7	-1.4	1.36314823
S50461	Q04589	XP_004753	XM_004753	91	G alpha 12, signal-transducing G protein alpha 12 subunit	3308.3	2345.7	-1.4	1.40951528
S54008	AAA13843	1E1VC	M37722	89	FGF receptor-1	2362.2	1658.7	-1.4	1.42412733
S55223	AAB28225	NP_003395	NM_003404	97	14-3-3 protein beta subtype	6388.6	4604.6	-1.4	1.38881039
S65555	AAB31867	NP_002052	NM_002061	98	Gamma-glutamylcysteine synthetase light chain	33556.7	22635.6	-1.4	1.48247451
S75019		AAH02515	BC002515	92	Antiquitin=28g turgor protein homolog	1710.3	1254.2	-1.4	1.36366811
S75991		NP_002967	NM_002976	83	Voltage-dependent sodium channel alpha subunit	2509.6	1805.8	-1.4	1.44512128
				86		9546.1	6751.4	-1.4	1.41394377

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

NM_017061	NP_058757	Homology too low for humans				S77494				
S79263	AAB35068	XP_009960	XM_009960	49	Lysyl oxidase	683.2	1425.4	-1.4	0.47930406	
U00926	AAC28872	AAH02389	BC002389	70	rIL-3R beta =interleukin-3 receptor beta-subunit	7642.6	5320.2	-1.4	1.43652494	
U02096	AAA60455	NP_001437	NM_001446	88	Delta subunit of F1F0 ATPase	22572.8	12558.7	-1.4	1.79738349	
U05989	AAA16492	NP_002574	NM_002583	69	Fatty acid binding protein mRNA	4252	3029.7	-1.4	1.40343928	
U06230	159618	P07225	J02917	75	Rattus norvegicus clone par-4 induced by effectors of apoptosis	986	534	-1.4	1.84644195	
U08214	AAA81950	XP_050405	XM_050405	91	Protein S	559.2	615.6	-1.4	0.80838207	
U13398	AAAT9911	XP_038595	XM_038595	48	DNA binding protein (URE-B1)	5544.7	4051.2	-1.4	1.3686562	
U14746	AAA66874	NP_000542	NM_000551	87	Protein-tyrosine kinase (JAK2)	817.7	591.2	-1.4	1.40691672	
U17634	AAA58797	NP_001702	NM_001711	96	VHL protein	2897.9	2058.5	-1.4	1.40777265	
U17837	AAA74468	AAC50820	U17838	67	Biglycan	6516.1	2372.6	-1.4	2.74639636	
U17919	AAA80105	NP_001614	NM_001623	87	Rattus sp. zinc finger protein RIZ mRNA	6244.6	5843.4	-1.4	1.06865866	
U24150	AAC52289	CAA53287	X75621	89	Allograft inflammatory factor-1	961.5	707.3	-1.4	1.35939488	
U24489	g1336153	g180964	M26856	84	Tuberous sclerosis 2 homolog	2575.3	1892.4	-1.4	1.36086451	
U27562	AAA68708	CAA60386	X86693	70	Tenascin X	9683.9	5845.9	-1.4	1.65310731	
U30381	Q62806	Q9UQR1	AF039019	60	SC1 protein	9422.2	6935.2	-1.4	1.35860538	
U30788				97	Zinc finger protein 148	1215.3	869.3	-1.4	1.3980214	
U33540				No Human	Rattus norvegicus Tclone4 mRNA pseudogene	2286	822.4	-1.4	2.77966926	
U35099	BAA11086	AAC50229	U35100	100	Cytochrome P450 (CYP2B14P) mRNA, complete cds	2614.4	2554.3	-1.4	1.02352895	
U41164	AAB61447	XP_044307	XM_044307	68	Rattus norvegicus complexin II	848.5	828.4	-1.4	1.02426394	
U42627	AAB06202	XP_017018	XM_017018	83	Rattus norvegicus Cys2/His2 zinc finger protein (Krl)	8503.5	6252.8	-1.4	1.35995074	
U47031	AAA99777	CAA68948	Y07684	84	Dual-specificity protein tyrosine phosphatase	1323.9	650.7	-1.4	2.03457815	
U48288	AAB06559	NP_057332	NM_016248	62	P2x4 ATP receptor	1359.1	574.5	-1.4	2.36570931	
U50842	AAB48949	BAA07655	D42055	78	Rattus norvegicus A-kinase anchoring protein AKAP 220	3173.3	2285.8	-1.4	1.38826669	
U57391	AAC52601	AAF73912	AF227987	65	Ubiquitin ligase (Nedd4) protein	14754.3	10457.9	-1.4	1.41082818	
U61729	AAB08057	NP_006804	NM_006813	62	FcεRI gamma-chain Interacting protein SH2-B	7744	5719.8	-1.4	1.35389349	
U70825	P97608	95419885	AL096750	93	Proline rich protein	753.2	540	-1.4	1.39481481	
					5-oxo-L-prolinase	772.6	560.3	-1.4	1.37890416	

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

U75400	NP_004757	NM_004766	50	Coatmer beta subunit mRNA	1787.6	1245	-1.4	1.43562329
Z78279	NP_004758	NM_004767	51	Alpha 1 type I collagen	54984.4	39299.2	-1.4	1.39861371
U75920	NP_038457	NM_012325	95	APC binding protein EB1 mRNA	1320.7	976.3	-1.4	1.35276042
U82623	NP_008778	NM_008788	71	Cytocentrin	2172.7	1539	-1.4	1.41176088
U84727	CAA46905	X66114	96	2-oxoglutarate carrier	7094.8	4994.9	-1.4	1.42040882
U91561	NP_060599	NM_018129	89	Pyridoxine 5'-phosphate oxidase	1512.5	1086.7	-1.4	1.39182847
U92802	AAH11634	BC011634	83	Orphan G-protein coupled receptor (GPR41)	633.5	235.6	-1.4	2.68887946
U94340	AAA60137	M18112	82	Poly(ADP-ribose) polymerase	2588.8	1782.5	-1.4	1.44423989
X05300	A26168	Y00281	94	Ribophorin I	4082.1	3868.5	-1.4	1.0552152
X05472				Rat 2.4 kb repeat DNA right terminal region	1069.5	1064.8	-1.4	1.00441397
X06832	CAA29988	J03483	53	Prechromogranin A	3133.2	2319.5	-1.4	1.35080836
X07365	CAB37833	Y00483	86	Glutathione peroxidase	10685.9	7853.9	-1.4	1.36058519
X12355	CAA30916	D83485	91	Phospholipase C form-I	8585.2	6287.7	-1.4	1.36322785
X12554	CAA31068	M83308	80	Heart cytochrome c oxidase subunit VIa	2756.5	1917.8	-1.4	1.43724907
X13411	XP_045572	XM_045572	98	Elk protein	3227.1	2371	-1.4	1.36107128
X13527	AAA73578	U29344	77	Acyl carrier protein domain of fatty acid synthetase	4495.4	3234	-1.4	1.39004329
X13983	XP_006925	XM_006925	67	Rat alpha-2-macroglobulin	8250.5	5950.9	-1.4	1.36642894
X14181	NP_000871	NM_000880	99	Ribosomal protein L18a (AA 1-175)	19578.3	13697	-1.4	1.429386
X17012	IGHU2	X00910	80	Insulin-like growth factor II (somatomedin A)	2696.3	1897.5	-1.4	1.42087497
X51707	NP_001013	NM_001022	98	Ribosomal protein S19	21837.1	15405.6	-1.4	1.41747806
X52840	XP_041677	XM_041677	93	Smooth muscle myosin RLC-B	888.9	631.7	-1.4	1.4071553
NM_022399	XP_032021	XM_032021	87	Calreticulin	4606	3244.1	-1.4	1.41980827
X56596	CAA60790	X87344	65	MHC class II antigen RT1.B-1 beta-chain	2144.1	302.3	-1.4	7.08262322
X60468	NP_001155	NM_001164	89	Integrin-like protein, APP	4978.8	5198.2	-1.4	0.95798546
X66022	XP_008172	XM_008172	93	Interacting protein	534.4	423.9	-1.4	1.26087469
X67877	XP_037004	XM_037004	67	Neuro-D4 protein	1286.4	763.1	-1.4	1.65854659
X70223	NP_061133	NM_018663	72	Cytosolic resiniferatoxin binding protein RBP-26	1073.4	768.1	-1.4	1.39747429
X74226	BAB55184	AK027510	75	22kDa integral peroxisomal membrane LL5 mRNA	4207.5	3063.3	-1.4	1.37351875

U75405

X53383

Table 5. Polynucleotide Sequences Which are Downregulated Following Inflammation

X74800	CAA52807	O00159	X98507	91	MYR2 mRNA for myosin I heavy chain	1483.7	1051.6	-1.4	1.41089768
X76489	CAA54027	NP_001760	NIM_001769	79	CD9 mRNA for cell surface glycoprotein	27448.1	19594.3	-1.4	1.40087168
X89968	CAA62005	XP_038976	XM_038976	90	Alpha-soluble NSF attachment protein	14212	10308.6	-1.4	1.37865472
X90823	CAA62338	CAA62341	X90826	93	USF2a & USF2b	966.6	847.6	-1.4	1.14039641
X93591	CAA63789	XP_034901	XM_034901	90	Mismatch repair protein, MSH2	1693	954.9	-1.4	1.77286052
Y13336	CAA73780	NP_001335	NIM_001344	88	DAD-1 gene	15870.7	11180.5	-1.4	1.41949823
Z18877	CAA79317	P00873	D00068	65	R.norvegicus mRNA for 2'5' oligoadenylate synthetase	5135	2231.4	-1.4	2.30124585



Table 8. Differentially Expressed Sequences Validated by Northern

#	Descriptions	Accession number	Axotomy			Northern Regulation	Spared Nerve Injury		
			Naive Intensity	Axotomy Intensity	Fold change		NI Intensity	SNI Intensity	Fold change
1	GTP cyclohydrolase I	M58364	#	(+)	AAA	↑↑	#	+	AA
2	Guanine nucleotide-releasing protein (MSS4)	L10336	#	(++)	-	NC	(+)	+	-
3	Enkephalinase (neutral endopeptidase)	M15944	#	(+)	AA	↑	#	(+)	AA
4	Cholecystokinin receptor (CCK-B)	M99418	#	(+)	AA	↑↑	#	(+)	AA
5	Endothelin-1	M84711	#	(+)	AA	↑↑	#	(+)	-
6	Cannabinoid CB1 receptor	X55812	(+)	(+)	AA	↓	(+)	#	↓
7	53 kD polypeptide	X02601	(+)	+	AA	↑↑	#	+	-
8	ET-B endothelin receptor	X57764	(+)	+	-	NC	+	(+)	↓
9	Metallothionein-1 (EST211851)	A102562	+	++	AA	↑↑	++	+	↓
10	Small proline-rich protein (EST195714)	AA891911	(+)	++	AA	↑↑	(+)	+	↓
11	Immediate-early serum-responsive JE (IES-JE)	X17053	+	++	AA	↑↑	++	+	↓
12	5HT-3	U59672	+	#	AA	↓	+	+	↓
13	Peripheral-type benzodiazepine receptor	J05122	++	++	AA	↑	(+)	++	↓
14	α-2-macroglobulin	M23568	(++)	++	AA	↑↑	++	++	↓
15	Pituitary adenylate cyclase activating peptide	X80290	++	++	AA	↑↑	++	++	↓
16	GFRα1 (RET ligand 1)	U97142	++	++	AA	↑	+	+	↓
17	HNF-3/fork-head homolog-2 (HFH-2)	L13202	(++)	++	-	NC	++	++	↓
18	Calcium channel α-2 subunit (CCHL2A)	M86621	++	+++	AA	↑↑	++	+++	↓
19	CLP36	U23769	++	++	AA	↑↑	++	++	↓
20	VGf	M74223	++	++	AA	↑↑	++	++	↓
21	gadd45	L32591	++	++	AA	↑↑	++	++	↓
22	Guanine nucleotide-binding protein G-I, α subunit	M12672	+++	+++	-	NC	+++	+++	↓
23	Lysozyme (EST196578)	AA892775	+++	+++	AA	↑	+++	+++	-
24	Phopholemman chloride channel (EST189142)	AA799645	+++	+++	AA	↑	+++	+++	↓
25	SNAP-25A	AB003991	+++	+++	AA	↓	+++	+++	↓

**KEY**

# = below detection  
 + = 100 - 1000  
 ++ = 1000 - 5000  
 +++ = 5000 - 10,000  
 ++++ = >10,000

( ) = present only on 1 chip  
 NC = no change  
 ↑ = slight regulation  
 ↑↑ = moderate/high regulation  
 ↑↑↑ = induced

Table 9. Differentially Expressed Sequences Validated by TaqMan

#	Descriptions	Accession Number	Axotomy			Taqman data			Spared Nerve Injury		
			Naive Intensity	Axotomy Intensity	Fold change	1 day Axotomy regulation/ fold change	5 day Axotomy regulation/ fold change		Naive Intensity	SNI Intensity	Fold change
1	c-Jun	X17163	#	#	-	↑ x5.2	↑ x3.7		#	++	▲▲▲
2	mGluR5	D10891	#	#	-	NC	NC		#	#	▼
3	NK1 receptor	M64236	#	#	-	NC	NC		(+)	#	
4	Cyclooxygenase 2	S67722	#	#	-	NC	NC		#	#	▲
5	c-fos	X06769	#	#	-	↑ x3.2	NC		#	(+)	
6	mGluR1	M61098	#	(+)	-	NC	NC		#	#	
7	μ-opioid receptor (MOR)	S77863	#	#	-	NC	↓ x2.3		#	#	▲▲▲
8	Galanin	J03624	#	++++	▲▲▲	↑ x10	↑ x62.		#	+++	
9	Neuronal nitric oxide synthase	U67309	#	#	▲	NC	↑ x4		#	#	
10	Cannabinoid CB1 receptor	X55812	(+)	(+)	-	NC	↓ x1.8		(+)	#	-
11	Brain-derived neurotrophic factor	D10938	+	(+)	-	↑ x2.7	NC		+	+	▲
12	Cyclooxygenase 1	U03388	(+)	#	-	NC	NC		#	(+)	-
13	Vanilloid receptor subtype 1	AF029310	++	(++)	▲▲▲	↓ x1.6	↓ x2.9		++	+	▲▲▲
14	Leucine zipper protein (ATF3)	M63282	++	+++	▲▲▲	↑ x31	↑ x20		+	++	▲▲
15	Calcitonin gene-related peptide (beta)	M11598	++	(+)	▲▲	NC	↓ x2		++	++	▲▲
16	Voltage-gated Na channel α subunit Nav 1.9	AF059030	+++	++	▲	NC	↓ x2.4		+++	++	▲▲
17	Dynorphin	M32783	+++	+++	-	NC	NC		+++	++	▲
18	Neuron-specific enolase	X07729	+++	+++	▲	NC	NC		+++	+++	-
19	GAP-43	L21192	+++	++++	▲▲	↑ x3.3	↑ x2		+++	++++	▲
20	TrkA	M85214	+++	+++	-	NC	↓ x1.4		+++	+++	▲▲
21	Heat shock protein 27	M86389	++++	++++	▲▲	↑ x1.8	↑ x1.8		+++	++++	▲▲

**KEY**  
 NC = no change  
 - = < 1.4 fold  
 ▲ = 1.4 < 2 fold  
 ▲▲ = 2 < 5 fold  
 ▲▲▲ = > 5 fold  
 # = present only on 1 chip  
 # = below detection  
 + = 100 - 1000  
 ++ = 1000 - 5000  
 +++ = 5000 - 10,000  
 ++++ = > 10,000

Vectors and Host Cells

In addition to providing genes which are differentially expressed in animals which have been subjected to pain, the present invention further provides vectors and plasmids useful for directing the expression of differentially expressed genes, or therapeutic nucleic acid constructs, and further provides host cells which express the vectors and plasmids provided herein. Nucleic acid sequences useful for the expression from a vector or plasmid as described below include, but are not limited to any nucleic acid or gene sequence identified as being differentially regulated by the methods described above, and further include therapeutic nucleic acid molecules, such as antisense molecules. The host cell may be any prokaryotic or eukaryotic cell. Ligating the polynucleotide sequence into a gene construct, such as an expression vector, and transforming or transfecting into hosts, either eukaryotic (yeast, avian, insect or mammalian) or prokaryotic (bacterial cells), are standard procedures well known in the art.

*Vectors*

There is a wide array of vectors known and available in the art that are useful for the expression of differentially expressed nucleic acid molecules according to the invention. The selection of a particular vector clearly depends upon the intended use the polypeptide encode the differentially expressed nucleic acid. For example, the selected vector must be capable of driving expression of the polypeptide in the desired cell type, whether that cell type be prokaryotic or eukaryotic. Many vectors comprise sequences allowing both prokaryotic vector replication and eukaryotic expression of operably linked gene sequences.

Vectors useful according to the invention may be autonomously replicating, that is, the vector, for example, a plasmid, exists extrachromosomally and its replication is not necessarily directly linked to the replication of the host cell's genome. Alternatively, the replication of the vector may be linked to the replication of the host's chromosomal DNA, for example, the vector may be integrated into the chromosome of the host cell as achieved by retroviral vectors.

Vectors useful according to the invention preferably comprise sequences operably linked to the differentially expressed sequences that permit the transcription and translation of the sequence. Sequences that permit the transcription of the linked differentially expressed sequence include a promoter and optionally also include an enhancer element or elements permitting the strong expression of the linked sequences. The term "transcriptional regulatory sequences" refers to the combination of a promoter and any additional sequences conferring desired

expression characteristics (e.g., high level expression, inducible expression, tissue- or cell-type-specific expression) on an operably linked nucleic acid sequence.

The selected promoter may be any DNA sequence that exhibits transcriptional activity in the selected host cell, and may be derived from a gene normally expressed in the host cell or from a gene normally expressed in other cells or organisms. Examples of promoters include, but are not limited to the following: A) prokaryotic promoters - *E. coli* lac, tac, or trp promoters, lambda phage P<sub>R</sub> or P<sub>L</sub> promoters, bacteriophage T7, T3, Sp6 promoters, *B. subtilis* alkaline protease promoter, and the *B. stearothermophilus* maltogenic amylase promoter, etc.; B) eukaryotic promoters - yeast promoters, such as GAL1, GAL4 and other glycolytic gene promoters (see for example, Hitzeman et al., 1980, J. Biol. Chem. 255: 12073-12080; Alber & Kawasaki, 1982, J. Mol. Appl. Gen. 1: 419-434), LEU2 promoter (Martinez-Garcia et al., 1989, Mol Gen Genet. 217: 464-470), alcohol dehydrogenase gene promoters (Young et al., 1982, in Genetic Engineering of Microorganisms for Chemicals, Hollaender et al., eds., Plenum Press, NY), or the TPI1 promoter (U.S. Pat. No. 4,599,311); insect promoters, such as the polyhedrin promoter (U.S. Pat. No. 4,745,051; Vasuvedan et al., 1992, FEBS Lett. 311: 7-11), the P10 promoter (Vlak et al., 1988, J. Gen. Virol. 69: 765-776), the *Autographa californica* polyhedrosis virus basic protein promoter (EP 397485), the baculovirus immediate-early gene promoter gene 1 promoter (U.S. Pat. Nos. 5,155,037 and 5,162,222), the baculovirus 39K delayed-early gene promoter (also U.S. Pat. Nos. 5,155,037 and 5,162,222) and the OpMNPV immediate early promoter 2; mammalian promoters - the SV40 promoter (Subramani et al., 1981, Mol. Cell. Biol. 1: 854-864), metallothionein promoter (MT-1; Palmiter et al., 1983, Science 222: 809-814), adenovirus 2 major late promoter (Yu et al., 1984, Nucl. Acids Res. 12: 9309-21), cytomegalovirus (CMV) or other viral promoter (Tong et al., 1998, Anticancer Res. 18: 719-725), or even the endogenous promoter of a gene of interest in a particular cell type.

A selected promoter may also be linked to sequences rendering it inducible or tissue-specific. For example, the addition of a tissue-specific enhancer element upstream of a selected promoter may render the promoter more active in a given tissue or cell type. Alternatively, or in addition, inducible expression may be achieved by linking the promoter to any of a number of sequence elements permitting induction by, for example, thermal changes (temperature sensitive), chemical treatment (for example, metal ion- or IPTG-inducible), or the addition of an antibiotic inducing agent (for example, tetracycline).

Regulatable expression is achieved using, for example, expression systems that are drug inducible (e.g., tetracycline, rapamycin or hormone-inducible). Drug-regulatable promoters that are particularly well suited for use in mammalian cells include the tetracycline regulatable promoters, and glucocorticoid steroid-, sex hormone steroid-, ecdysone-, lipopolysaccharide (LPS)- and isopropylthiogalactoside (IPTG)-regulatable promoters. A regulatable expression system for use in mammalian cells should ideally, but not necessarily, involve a transcriptional regulator that binds (or fails to bind) nonmammalian DNA motifs in response to a regulatory agent, and a regulatory sequence that is responsive only to this transcriptional regulator.

Tissue-specific promoters may also be used to advantage in differentially expressed sequence-encoding constructs of the invention. A wide variety of tissue-specific promoters is known. As used herein, the term "tissue-specific" means that a given promoter is transcriptionally active (i.e., directs the expression of linked sequences sufficient to permit detection of the polypeptide product of the promoter) in less than all cells or tissues of an organism. A tissue specific promoter is preferably active in only one cell type, but may, for example, be active in a particular class or lineage of cell types (e.g., hematopoietic cells). A tissue specific promoter useful according to the invention comprises those sequences necessary and sufficient for the expression of an operably linked nucleic acid sequence in a manner or pattern that is essentially the same as the manner or pattern of expression of the gene linked to that promoter in nature. The following is a non-exclusive list of tissue specific promoters and literature references containing the necessary sequences to achieve expression characteristic of those promoters in their respective tissues; the entire content of each of these literature references is incorporated herein by reference. Examples of tissue specific promoters useful in the present invention are as follows:

Bowman et al., 1995 Proc. Natl. Acad. Sci. USA 92,12115-12119 describe a brain-specific transferrin promoter; the synapsin I promoter is neuron specific (Schoch et al., 1996 J. Biol. Chem. 271, 3317-3323); the nestin promoter is post-mitotic neuron specific (Uetsuki et al., 1996 J. Biol. Chem. 271, 918-924); the neurofilament light promoter is neuron specific (Charron et al., 1995 J. Biol. Chem. 270, 30604-30610); the acetylcholine receptor promoter is neuron specific (Wood et al., 1995 J. Biol. Chem. 270, 30933-30940); and the potassium channel promoter is high-frequency firing neuron specific (Gan et al., 1996 J. Biol. Chem. 271, 5859-5865). Any tissue specific transcriptional regulatory sequence known in the art may be used to

advantage with a vector<sup>935</sup> encoding a differentially expressed nucleic acid sequence obtained from an animal subjected to pain.

In addition to promoter/enhancer elements, vectors useful according to the invention may further comprise a suitable terminator. Such terminators include, for example, the human growth hormone terminator (Palmiter et al., 1983, supra), or, for yeast or fungal hosts, the TPI1 (Alber & Kawasaki, 1982, supra) or ADH3 terminator (McKnight et al., 1985, EMBO J. 4: 2093-2099).

Vectors useful according to the invention may also comprise polyadenylation sequences (e.g., the SV40 or Ad5E1b poly(A) sequence), and translational enhancer sequences (e.g., those from Adenovirus VA RNAs). Further, a vector useful according to the invention may encode a signal sequence directing the recombinant polypeptide to a particular cellular compartment or, alternatively, may encode a signal directing secretion of the recombinant polypeptide.

a. Plasmid vectors.

Any plasmid vector that allows expression of a differentially expressed coding sequence of the invention in a selected host cell type is acceptable for use according to the invention. A plasmid vector useful in the invention may have any or all of the above-noted characteristics of vectors useful according to the invention. Plasmid vectors useful according to the invention include, but are not limited to the following examples: Bacterial - pQE70, pQE60, pQE-9 (Qiagen) pBs, phagescript, psiX174, pBluescript SK, pBsKS, pNH8a, pNH16a, pNH18a, pNH46a (Stratagene); pTrc99A, pKK223-3, pKK233-3, pDR540, and pRIT5 (Pharmacia); Eukaryotic - pWLneo, pSV2cat, pOG44, pXT1, pSG (Stratagene) pSVK3, pBPV, pMSG, and pSVL (Pharmacia). However, any other plasmid or vector may be used as long as it is replicable and viable in the host.

b. Bacteriophage vectors.

There are a number of well known bacteriophage-derived vectors useful according to the invention. Foremost among these are the lambda-based vectors, such as Lambda Zap II or Lambda-Zap Express vectors (Stratagene) that allow inducible expression of the polypeptide encoded by the insert. Others include filamentous bacteriophage such as the M13-based family of vectors.

c. Viral vectors.

A number of different viral vectors are useful according to the invention, and any viral vector that permits the introduction and expression of one or more of the differentially expressed polynucleotides of the invention in cells is acceptable for use in the methods of the invention. Viral vectors that can be used to deliver foreign nucleic acid into cells include but are not limited to retroviral vectors, adenoviral vectors, adeno-associated viral vectors, herpesviral vectors, and Semliki forest viral (alphaviral) vectors. Defective retroviruses are well characterized for use in gene transfer (for a review see Miller, A.D. (1990) *Blood* 76:271). Protocols for producing recombinant retroviruses and for infecting cells *in vitro* or *in vivo* with such viruses can be found in Current Protocols in Molecular Biology, Ausubel, F.M. et al. (eds.) Greene Publishing Associates, (1989), Sections 9.10-9.14, and other standard laboratory manuals.

In addition to retroviral vectors, Adenovirus can be manipulated such that it encodes and expresses a gene product of interest but is inactivated in terms of its ability to replicate in a normal lytic viral life cycle (see for example Berkner et al., 1988, *BioTechniques* 6:616; Rosenfeld et al., 1991, *Science* 252:431-434; and Rosenfeld et al., 1992, *Cell* 68:143-155). Suitable adenoviral vectors derived from the adenovirus strain Ad type 5 dl324 or other strains of adenovirus (e.g., Ad2, Ad3, Ad7 etc.) are well known to those skilled in the art. Adeno-associated virus (AAV) is a naturally occurring defective virus that requires another virus, such as an adenovirus or a herpes virus, as a helper virus for efficient replication and a productive life cycle. (For a review see Muzyczka et al., 1992, *Curr. Topics in Micro. and Immunol.* 158:97-129). An AAV vector such as that described in Traschin et al. (1985, *Mol. Cell. Biol.* 5:3251-3260) can be used to introduce nucleic acid into cells. A variety of nucleic acids have been introduced into different cell types using AAV vectors (see, for example, Hermonat et al., 1984, *Proc. Natl. Acad. Sci. USA* 81: 6466-6470; and Traschin et al., 1985, *Mol. Cell. Biol.* 4: 2072-2081).

#### *Host cells*

Any cell into which a recombinant vector carrying a gene encoding a nucleic acid sequence differentially expressed in an animal subjected to pain may be introduced and wherein the vector is permitted to drive the expression of the peptide encoded by the differentially expressed sequence is useful according to the invention. Any cell in which a differentially expressed molecule of the invention may be expressed and preferably detected is a suitable host, wherein the host cell is preferably a mammalian cell and more preferably a human cell. Vectors suitable for the introduction of differentially expressed nucleic acid sequences to host cells from

a variety of different ~~organisms~~, both prokaryotic and eukaryotic, are ~~described herein above~~ or known to those skilled in the art.

Host cells may be prokaryotic, such as any of a number of bacterial strains, or may be eukaryotic, such as yeast or other fungal cells, insect or amphibian cells, or mammalian cells including, for example, rodent, simian or human cells. Cells may be primary cultured cells, for example, primary human fibroblasts or keratinocytes, or may be an established cell line, such as NIH3T3, 293T or CHO cells. Further, mammalian cells useful in the present invention may be phenotypically normal or oncogenically transformed. It is assumed that one skilled in the art can readily establish and maintain a chosen host cell type in culture.

*Introduction of vectors to host cells.*

Vectors useful in the present invention may be introduced to selected host cells by any of a number of suitable methods known to those skilled in the art. For example, vector constructs may be introduced to appropriate bacterial cells by infection, in the case of E. coli bacteriophage vector particles such as lambda or M13, or by any of a number of transformation methods for plasmid vectors or for bacteriophage DNA. For example, standard calcium-chloride-mediated bacterial transformation is still commonly used to introduce naked DNA to bacteria (Sambro et al., 1989, Molecular Cloning, A Laboratory Manual, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY), but electroporation may also be used (Ausubel et al., 1988, Current Protocols in Molecular Biology, (John Wiley & Sons, Inc., NY, NY)).

For the introduction of vector constructs to yeast or other fungal cells, chemical transformation methods are generally used (e.g. as described by Rose et al., 1990, Methods in Yeast Genetics, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY). For transformation of *S. cerevisiae*, for example, the cells are treated with lithium acetate to achieve transformation efficiencies of approximately  $10^4$  colony-forming units (transformed cells)/ $\mu\text{g}$  of DNA. Transformed cells are then isolated on selective media appropriate to the selectable marker used. Alternatively, or in addition, plates or filters lifted from plates may be scanned for GFP fluorescence to identify transformed clones.

For the introduction of vectors comprising differentially expressed sequences to mammalian cells, the method used will depend upon the form of the vector. Plasmid vectors may be introduced by any of a number of transfection methods, including, for example, lipid-mediated transfection ("lipofection"), DEAE-dextran-mediated transfection, electroporation or



calcium phosphate precipitation. These methods are detailed, for example, in Current Protocols in Molecular Biology (Ausubel et al., 1988, John Wiley & Sons, Inc., NY, NY).

Lipofection reagents and methods suitable for transient transfection of a wide variety of transformed and non-transformed or primary cells are widely available, making lipofection an attractive method of introducing constructs to eukaryotic, and particularly mammalian cells in culture. For example, LipofectAMINE™ (Life Technologies) or LipoTaxi™ (Stratagene) kits are available. Other companies offering reagents and methods for lipofection include Bio-Rad Laboratories, CLONTECH, Glen Research, InVitrogen, JBL Scientific, MBI Fermentas, PanVera, Promega, Quantum Biotechnologies, Sigma-Aldrich, and Wako Chemicals USA.

Following transfection with a vector of the invention, eukaryotic (e.g., human) cells successfully incorporating the construct (intra- or extrachromosomally) may be selected, as noted above, by either treatment of the transfected population with a selection agent, such as an antibiotic whose resistance gene is encoded by the vector, or by direct screening using, for example, FACS of the cell population or fluorescence scanning of adherent cultures. Frequently, both types of screening may be used, wherein a negative selection is used to enrich for cells taking up the construct and FACS or fluorescence scanning is used to further enrich for cells expressing differentially expressed polynucleotides or to identify specific clones of cells, respectively. For example, a negative selection with the neomycin analog G418 (Life Technologies, Inc.) may be used to identify cells that have received the vector, and fluorescence scanning may be used to identify those cells or clones of cells that express the vector construct to the greatest extent.

#### Polynucleotide arrays comprising differentially expressed nucleic acid sequences

In one embodiment, the present invention provides a pain-specific polynucleotide array comprising nucleic acid sequences that are identified as being differentially expressed in an animal subjected to pain relative to a naïve animal stably associated at discrete predefined regions on a surface. In a preferred embodiment, a pain-specific microarray useful in the present invention comprises one or more polynucleotides shown in Tables 1, 2, 3, 4, or 5. At least one of the polynucleotides comprising a pain-specific array useful in the present invention must be selected from Table 2, 3, 4, or 5. A pain-specific microarray according to the invention preferably comprises between 10 and 20,000 nucleic acid members, and more preferably comprises at least 5000 nucleic acid members. The nucleic acid members are known or novel

polynucleotide sequences which have been determined to be differentially expressed as described herein, or any combination thereof. A pain-specific microarray according to the invention may be used, for example, to test therapeutic compounds which may modulate the expression of the sequences comprising the array in an animal subjected to pain. For example, an animal subjected to pain may be treated with a potentially therapeutic compound as described below. Total RNA may then be extracted from, for example, primary sensory neurons, prepared according to the methods described above, and hybridized to the pain-specific microarray. The level of hybridization of samples to the pain-specific microarray may be compared to the level of hybridization of a nucleic acid sample obtained from an animal subjected to pain, but not administered the therapeutic compound. The pain-specific microarray may also be used, for example, to test the ability of an antisense nucleic acid to hybridize to the differentially expressed nucleic acid molecules comprising the pain-specific microarray. The antisense molecules may then be used to inhibit the expression of, for example, nucleic acid sequences which have been identified, using the above methods, as being upregulated (i.e., by at least 1.4 fold) in an animal subjected to pain.

The invention also provides for a pain-specific microarray comprising nucleic acids sequences which have been identified and verified as being differentially expressed in an animal subjected to pain, wherein the sequences stably associated with the array are obtained from at least two different species of animal. In a preferred embodiment, a pain-specific microarray useful in the present invention comprises at least one polynucleotide shown in Table 2, 3, 4, or 5, and may optionally further comprise one or more of the polynucleotides shown in Table 1. Such arrays may also be used for prognostic methods to monitor an animal's response to therapy. In one embodiment, the above pain-specific microarrays are used to identify a therapeutic agent that changes (e.g., increases or decreases) the level of expression of at least one polynucleotide sequence that is differentially expressed (i.e., by at least 1.4 fold, or at least 1.2 fold in combination with a p-value of less than 0.05 in triplicate analysis) in sensory neurons in an animal subjected to pain.

The nucleic acid samples that are hybridized to and analyzed with a pain-specific microarray of the invention are preferably derived from sensory neurons of an animal subjected to pain (or from a naïve control animal). More preferably, the nucleic acid samples are obtained from primary sensory neurons of the dorsal root ganglion. A limitation for this procedure lies in

the amount of RNA available for use as a probe nucleic acid sample. Preferably, at least 1 microgram of total RNA is obtained for use according to this invention.

### *Construction of a pain-specific microarray*

An aspect of the present invention incorporates the previously identified differentially regulated nucleic acid sequences into a pain-specific polynucleotide microarray. In the present methods, an array of nucleic acid members stably associated with the surface of a substantially planar solid support is contacted with a sample comprising probe polynucleotides obtained from an animal subjected to pain, or from a naïve animal under hybridization conditions sufficient to produce a hybridization pattern of complementary nucleic acid members/probe complexes.

The nucleic acid members may be produced using established techniques such as polymerase chain reaction (PCR) and reverse transcription (RT). For example, once a nucleic acid sequence has been identified as being differentially expressed in an animal subjected to pain, the sequence may be amplified from the originally obtained RNA sample by RT-PCR, wherein the amplified product may be used to construct a pain-specific microarray. These methods are similar to those currently known in the art (see e.g. PCR Strategies, Michael A. Innis (Editor), et al. (1995) and PCR: Introduction to Biotechniques Series, C. R. Newton, A. Graham (1997)). Amplified polynucleotides are purified by methods well known in the art (e.g., column purification or alcohol precipitation). A polynucleotide is considered pure when it has been isolated so as to be substantially free of primers and incomplete products produced during the synthesis of the desired polynucleotide. Preferably, a purified polynucleotide will also be substantially free of contaminants which may hinder or otherwise mask the binding activity of the molecule.

A pain-specific microarray according to the invention comprises a plurality of unique polynucleotides attached to one surface of a solid support at a density exceeding 20 different polynucleotides/cm<sup>2</sup>, wherein each of the polynucleotides is attached to the surface of the solid support in a non-identical preselected region. Each associated sample on the array comprises a polynucleotide composition, of known identity, usually of known sequence, as described in greater detail below. Any conceivable substrate may be employed in the invention. In one embodiment, the polynucleotide attached to the surface of the solid support is DNA. In a preferred embodiment, the polynucleotide attached to the surface of the solid support is cDNA or RNA. In another preferred embodiment, the polynucleotide attached to the surface of the solid

support is cDNA synthesized by polymerase chain reaction (PCR). Preferably, a nucleic acid member comprising an array, according to the invention, is at least 25 nucleotides in length. In one embodiment, a nucleic acid member comprising an array is at least 150 nucleotides in length. Preferably, a nucleic acid member comprising an array is less than 1000 nucleotides in length. More preferably, a nucleic acid member comprising an array is less than 500 nucleotides in length. In one embodiment, an array comprises at least 10 different polynucleotides attached to one surface of the solid support. In another embodiment, the array comprises at least 100 different polynucleotides attached to one surface of the solid support. In yet another embodiment, the array comprises at least 10000 different polynucleotides attached to one surface of the solid support.

In the arrays of the invention, the polynucleotide compositions are stably associated with the surface of a solid support, wherein the support may be a flexible or rigid solid support. By "stably associated" is meant that each nucleic acid member maintains a unique position relative to the solid support under hybridization and washing conditions. As such, the samples are non-covalently or covalently stably associated with the support surface. Examples of non-covalent association include non-specific adsorption, binding based on electrostatic interactions (e.g., ion pair interactions), hydrophobic interactions, hydrogen bonding interactions, specific binding through a specific binding pair member covalently attached to the support surface, and the like. Examples of covalent binding include covalent bonds formed between the polynucleotides and a functional group present on the surface of the rigid support (e.g.,  $-OH$ ), where the functional group may be naturally occurring or present as a member of an introduced linking group, as described in greater detail below.

The amount of differentially expressed polynucleotide present in each composition will be sufficient to provide for adequate hybridization and detection of probe polynucleotide sequences during the assay in which the array is employed. Generally, the amount of each nucleic acid member stably associated with the solid support of the array is at least about 0.1 ng, preferably at least about 0.5 ng and more preferably at least about 1 ng, where the amount may be as high as 1000 ng or higher, but will usually not exceed about 20 ng. Where the nucleic acid member is "spotted" onto the solid support in a spot comprising an overall circular dimension, the diameter of the "spot" will generally range from about 10 to 5,000  $\mu m$ , usually from about 20 to 2,000  $\mu m$  and more usually from about 50 to 1000  $\mu m$ .

Control nucleic acid members may be present on the array including nucleic acid members comprising oligonucleotides or polynucleotides corresponding to genomic DNA, housekeeping genes, vector sequence, plant nucleic acid sequence, negative and positive control genes, and the like. Control nucleic acid members are calibrating or control genes whose function is not to tell whether a particular "key" gene of interest is expressed, but rather to provide other useful information, such as background or basal level of expression.

Other control polynucleotides are spotted on the array and used as probe expression control polynucleotides and mismatch control nucleotides to monitor non-specific binding or cross-hybridization to a polynucleotide in the sample other than the target to which the probe is directed. Mismatch probes thus indicate whether a hybridization is specific or not. For example, if the target is present, the perfectly matched probes should be consistently brighter than the mismatched probes.

#### *Solid substrate*

An array according to the invention comprises either a flexible or rigid substrate. A flexible substrate is capable of being bent, folded or similarly manipulated without breakage. Examples of solid materials which are flexible solid supports with respect to the present invention include membranes, e.g., nylon, flexible plastic films, and the like. By "rigid" is meant that the support is solid and does not readily bend, i.e., the support is not flexible. As such, the rigid substrates of the subject arrays are sufficient to provide physical support and structure to the associated polynucleotides present thereon under the assay conditions in which the array is employed, particularly under high throughput handling conditions.

The substrate may be biological, non-biological, organic, inorganic, or a combination of any of these, existing as particles, strands, precipitates, gels, sheets, tubing, spheres, containers, capillaries, pads, slices, films, plates, slides, etc. The substrate may have any convenient shape, such as a disc, square, sphere, circle, etc. The substrate is preferably flat or planar but may take on a variety of alternative surface configurations. The substrate may be a polymerized Langmuir Blodgett film, functionalized glass, Si, Ge, GaAs, GaP, SiO<sub>2</sub>, SiN<sub>4</sub>, modified silicon, or any one of a wide variety of gels or polymers such as (poly)tetrafluoroethylene, (poly)vinylidenedifluoride, polystyrene, polycarbonate, or combinations thereof. Other substrate materials will be readily apparent to those of skill in the art upon review of this disclosure.

In a preferred embodiment the substrate is flat glass or single-crystal silicon. According to some embodiments, the surface of the substrate is etched using well known techniques to provide for desired surface features. For example, by way of the formation of trenches, v-grooves, mesa structures, or the like, the synthesis regions may be more closely placed within the focus point of impinging light, be provided with reflective "mirror" structures for maximization of light collection from fluorescent sources, etc.

Surfaces on the solid substrate will usually, though not always, be composed of the same material as the substrate. Alternatively, the surface may be composed of any of a wide variety of materials, for example, polymers, plastics, resins, polysaccharides, silica or silica-based materials, carbon, metals, inorganic glasses, membranes, or any of the above-listed substrate materials. In some embodiments the surface may provide for the use of caged binding members which are attached firmly to the surface of the substrate. Preferably, the surface will contain reactive groups, which are carboxyl, amino, hydroxyl, or the like. Most preferably, the surface will be optically transparent and will have surface Si-OH functionalities, such as are found on silica surfaces.

The surface of the substrate is preferably provided with a layer of linker molecules, although it will be understood that the linker molecules are not required elements of the invention. The linker molecules are preferably of sufficient length to permit polynucleotides of the invention and on a substrate to hybridize to other polynucleotide molecules and to interact freely with molecules exposed to the substrate.

Often, the substrate is a silicon or glass surface, (poly)tetrafluoroethylene, (poly)vinylidenedifluoride, polystyrene, polycarbonate, a charged membrane, such as nylon 66 or nitrocellulose, or combinations thereof. In a preferred embodiment, the solid support is glass. Preferably, at least one surface of the substrate will be substantially flat. Preferably, the surface of the solid support will contain reactive groups, including, but not limited to, carboxyl, amino, hydroxyl, thiol, or the like. In one embodiment, the surface is optically transparent. In a preferred embodiment, the substrate is a poly-lysine coated slide or Gamma amino propyl silane-coated Corning Microarray Technology-GAPS.

Any solid support to which a nucleic acid member may be attached may be used in the invention. Examples of suitable solid support materials include, but are not limited to, silicates

such as glass and silica gel, cellulose and nitrocellulose papers, nylon, polystyrene, polymethacrylate, latex, rubber, and fluorocarbon resins such as TEFLON™.

The solid support material may be used in a wide variety of shapes including, but not limited to slides and beads. Slides provide several functional advantages and thus are a preferred form of solid support. Due to their flat surface, probe and hybridization reagents are minimized using glass slides. Slides also enable the targeted application of reagents, are easy to keep at a constant temperature, are easy to wash and facilitate the direct visualization of RNA and/or DNA immobilized on the solid support. Removal of RNA and/or DNA immobilized on the solid support is also facilitated using slides.

The particular material selected as the solid support is not essential to the invention, as long as it provides the described function. Normally, those who make or use the invention will select the best commercially available material based upon the economics of cost and availability, the expected application requirements of the final product, and the demands of the overall manufacturing process.

#### *Spotting method*

The invention provides for arrays wherein each nucleic acid member comprising the array is spotted onto a solid support.

Preferably, spotting is carried out as follows. PCR products (~40 ul) of cDNA clones obtained from animals subjected to pain, in the same 96-well tubes used for amplification, are precipitated with 4 ul (1/10 volume) of 3M sodium acetate (pH 5.2) and 100 ul (2.5 volumes) of ethanol and stored overnight at -20°C. They are then centrifuged at 3,300 rpm at 4°C for 1 hour. The obtained pellets are washed with 50 ul ice-cold 70% ethanol and centrifuged again for 30 minutes. The pellets are then air-dried and resuspended well in 20ul 3X SSC overnight. The samples are then spotted, either singly or in duplicate, onto polylysine-coated slides (Sigma Cat. No. P0425) using a robotic GMS 417 arrayer (Affymetrix, CA).

The boundaries of the spots on the microarray are marked with a diamond scribe (note that the spots become invisible after post-processing). The arrays are rehydrated by suspending the slides over a dish of warm particle free ddH<sub>2</sub>O for approximately one minute (the spots will swell slightly but will not run into each other) and snap-dried on a 70-80°C inverted heating block for 3 seconds. Nucleic acid is then UV crosslinked to the slide (Stratagene, Stratalinker,

65 mJ – set display to <sup>945</sup>650” which is 650 x 100 uJ). The arrays are placed in a slide rack. An empty slide chamber is prepared and filled with the following solution: 3.0 grams of succinic anhydride (Aldrich) was dissolved in 189 ml of 1-methyl-2-pyrrolidinone (rapid addition of reagent is crucial); immediately after the last flake of succinic anhydride is dissolved, 21.0 ml of 0.2 M sodium borate is mixed in and the solution is poured into the slide chamber. The slide rack is plunged rapidly and evenly in the slide chamber and vigorously shaken up and down for a few seconds, making sure the slides never leave the solution, and then mixed on an orbital shaker for 15-20 minutes. The slide rack is then gently plunged in 95°C ddH<sub>2</sub>O for 2 minutes, followed by plunging five times in 95% ethanol. The slides are then air dried by allowing excess ethanol to drip onto paper towels. The arrays are then stored in the slide box at room temperature until use.

Numerous methods may be used for attachment of the nucleic acid members of the invention to the substrate (a process referred as spotting). For example, polynucleotides are attached using the techniques of, for example U.S. Pat. No. 5,807,522, which is incorporated herein by reference for teaching methods of polymer attachment.

Alternatively, spotting may be carried out using contact printing technology.

#### *Kits*

The invention provides for kits for performing expression assays using the pain-specific arrays of the present invention. Such kits according to the present invention will at least comprise the pain-specific arrays of the invention having associated differentially expressed nucleic acid members and packaging means therefore. The kits may further comprise one or more additional reagents employed in the various methods, such as: 1) primers for generating test polynucleotides; 2) dNTPs and/or rNTPs (either premixed or separate), optionally with one or more uniquely labeled dNTPs and/or rNTPs (e.g., biotinylated or Cy3 or Cy5 tagged dNTPs); 3) post synthesis labeling reagents, such as chemically active derivatives of fluorescent dyes; 4) enzymes, such as reverse transcriptases, DNA polymerases, and the like; 5) various buffer mediums, e.g., hybridization and washing buffers; 6) labeled probe purification reagents and components, like spin columns, etc.; and 7) signal generation and detection reagents, e.g., streptavidin-alkaline phosphatase conjugate, chemifluorescent or chemiluminescent substrate, and the like.

#### Therapeutic agents and Screening Methods



The present invention provides a number of potentially therapeutic compounds which may be used to modulate the expression of genes which are differentially expressed in an animal subjected to pain, or which may be used to modulate the activity of a protein encoded by a differentially expressed polynucleotide sequence of the invention, or which may be used to modulate pain in an animal. Such therapeutic agents include, but are not limited to a chemical compound, a protein, an antibody, RNAi, and an antisense nucleic acid. In a further aspect, the invention provides a method for screening potentially therapeutic agents for the ability to modulate the expression of genes which are differentially expressed in an animal subjected to pain, and further provides pharmaceutical formulations comprising the therapeutic agents. In a still further embodiment, the present invention provides a method of screening potentially therapeutic agents for the ability to modulate the activity of one or more polypeptides encoded by one or more of the polynucleotide sequences indicated in Tables 1, 2, 3, 4, or 5.

### *Therapeutic Agents*

A therapeutic agent, useful in the present invention, changes (e.g., increases or decreases) the level of expression of at least one polynucleotide sequence that is differentially expressed in an animal subjected to pain. Preferably, a therapeutic agent causes a change in the level of expression of a polynucleotide sequence, that is, to increase or decrease the expression of a polynucleotide sequence that is differentially expressed in an animal subjected to pain, wherein the change results in the differentially expressed sequence being no longer differentially expressed by at least 1.4 fold (or differentially expressed by 1.2 fold in combination with a statistical significance of  $p < 0.05$  in at least three replicate assays) relative to the expression of the same sequence in a naïve animal.

In another embodiment, a therapeutic agent according to the invention can modulate the activity of one or more of the polypeptides specifically indicated in Tables 1, 2, 3, 4, or 5, or encoded by one or more of the polynucleotide sequences of Tables 1, 2, 3, 4, or 5.

In another embodiment, a therapeutic agent according to the invention can ameliorate at least one of the symptoms and/or physiological changes associated with pain including, but not limited to mechanical allodynia and hyperalgesia, and temperature allodynia and hyperalgesia.

The candidate therapeutic agent may be a synthetic compound, or a mixture of compounds, or may be a natural product (e.g. a plant extract or culture supernatant). According

to the invention, a therapeutic agent or compound can be a candidate or test compound.

Similarly, according to the invention, a candidate or test compound can be a therapeutic agent.

Suitable test compounds for use in the screening assays of the invention can be obtained from any suitable source, e.g., conventional compound libraries. The test compounds can also be obtained using any of the numerous approaches in combinatorial library methods known in the art, including: biological libraries; spatially addressable parallel solid phase or solution phase libraries; synthetic library methods requiring deconvolution; the "one-bead one-compound" library method; and synthetic library methods using affinity chromatography selection. The biological library approach is limited to peptide libraries, while the other four approaches are applicable to peptide, non-peptide oligomer or small molecule libraries of compounds [Lam, (1997)]. Examples of methods for the synthesis of molecular libraries can be found in the art. Libraries of compounds may be presented in solution or on beads, bacteria, spores, plasmids or phage.

Candidate therapeutic agents or compounds from large libraries of synthetic or natural compounds may be screened as described below. Numerous means are currently used for random and directed synthesis of saccharide, peptide, and nucleic acid based compounds. Synthetic compound libraries are commercially available from a number of companies including Maybridge Chemical Co. (Trevillet, Cornwall, UK), Comgenex (Princeton, NJ), Brandon Associates (Merrimack, NH), and Microsource (New Milford, CT). A rare chemical library is available from Aldrich (Milwaukee, WI). Combinatorial libraries are available and are prepared. Alternatively, libraries of natural compounds in the form of bacterial, fungal, plant and animal extracts are available from e.g., Pan Laboratories (Bothell, WA) or MycoSearch (NC), or are readily produced by methods well known in the art. Additionally, natural and synthetically produced libraries and compounds are readily modified through conventional chemical, physical, and biochemical means.

### *Small Molecules*

Useful compounds may be found within numerous chemical classes. Useful compounds may be organic compounds, or small organic compounds. Small organic compounds, or "small molecules" have a molecular weight of more than 50 yet less than about 2,500 daltons, preferably less than about 750, more preferably less than about 350 daltons. Exemplary classes include heterocycles, peptides, saccharides, steroids, and the like. Small molecules can be

nucleic acids, peptides, polypeptides, peptidomimetics, carbohydrates, lipids or other organic (carbon-containing) or inorganic molecules. The compounds may be modified to enhance efficacy, stability, pharmaceutical compatibility, and the like. Structural identification of an agent may be used to identify, generate, or screen additional agents. For example, where peptide agents are identified, they may be modified in a variety of ways to enhance their stability, such as using an unnatural amino acid, such as a D-amino acid, particularly D-alanine, by functionalizing the amino or carboxylic terminus, e.g. for the amino group, acylation or alkylation, and for the carboxyl group, esterification or amidification, or the like.

#### *Antisense therapy*

In one embodiment, a therapeutic agent, according to the invention, can be a differentially expressed nucleic acid or a sequence complementary thereto, useful in antisense therapy. The antisense sequence of a polynucleotide which is differentially expressed in an animal subjected to pain may be determined using either the sequence indicated by accession number in tables 4-5, or the sequence of the rat and/or human differentially expressed sequences shown in Table 2-3 as set forth in the corresponding SEQ ID No. As used herein, antisense therapy refers to administration or *in situ* generation of oligonucleotide molecules or their derivatives which specifically hybridize (e.g., bind) under cellular conditions with the cellular mRNA and/or genomic DNA, thereby inhibiting transcription and/or translation of that gene. The binding may be by conventional base pair complementarity, or, for example, in the case of binding to DNA duplexes, through specific interactions in the major groove of the double helix. In general, antisense therapy refers to the range of techniques generally employed in the art, and includes any therapy which relies on specific binding to oligonucleotide sequences.

An antisense construct of the present invention can be delivered, for example, as an expression plasmid which, when transcribed in the cell, produces RNA which is complementary to at least a unique portion of the cellular mRNA identified as being differentially expressed in an animal subjected to pain. The construction and use of expression plasmids is described above and may be adapted by one of skill in the art to include expression plasmids or vectors comprising antisense oligonucleotides. Alternatively, the antisense construct is an oligonucleotide probe which is generated *ex vivo* and which, when introduced into the cell, causes inhibition of expression by hybridizing with the mRNA and/or genomic sequences of a differentially expressed nucleic acid. Such oligonucleotide probes are preferably modified oligonucleotides which are resistant to endogenous nucleases, e.g., exonucleases and/or

endonucleases, and are therefore stable *in vivo*. Exemplary nucleic acid molecules for use as antisense oligonucleotides are phosphoramidate, phosphorothioate and methylphosphonate analogs of DNA (see also U.S. Patents 5,176,996; 5,264,564; and 5,256,775). Additionally, general approaches to constructing oligomers useful in antisense therapy have been reviewed, for example, by Van der Krol *et al.* (1988) *BioTechniques* 6:958-976; and Stein *et al.* (1988) *Cancer Res* 48:2659-2668. With respect to antisense DNA, oligodeoxyribonucleotides derived from the translation initiation site, e.g., between the -10 and +10 regions of the nucleotide sequence of interest, are preferred.

Antisense approaches involve the design of oligonucleotides (either DNA or RNA) that are complementary to mRNA (i.e., differentially expressed mRNA). The antisense oligonucleotides will bind to the mRNA transcripts and prevent translation. Absolute complementarity, although preferred, is not required. In the case of double-stranded antisense nucleic acids, a single strand of the duplex DNA may thus be tested, or triplex formation may be assayed. The ability to hybridize will depend on both the degree of complementarity and the length of the antisense nucleic acid. Generally, the longer the hybridizing nucleic acid, the more base mismatches with an RNA it may contain and still form a stable duplex (or triplex, as the case may be). One skilled in the art can ascertain a tolerable degree of mismatch by use of standard procedures to determine the melting point of the hybridized complex.

Oligonucleotides that are complementary to the 5' end of the differentially expressed mRNA, e.g., the 5' untranslated sequence up to and including the AUG initiation codon, should work most efficiently at inhibiting translation. However, sequences complementary to the 3' untranslated sequences of mRNAs have recently been shown to be effective at inhibiting translation of mRNAs as well. (Wagner, R. 1994. *Nature* 372:333). Therefore, oligonucleotides complementary to either the 5' or 3' untranslated, non-coding regions of a gene could be used in an antisense approach to inhibit translation of endogenous mRNA. Oligonucleotides complementary to the 5' untranslated region of the mRNA should include the complement of the AUG start codon. Antisense oligonucleotides complementary to mRNA coding regions are typically less efficient inhibitors of translation but could also be used in accordance with the invention. Whether designed to hybridize to the 5', 3', or coding region of subject mRNA, antisense nucleic acids should be at least six nucleotides in length, and are preferably less than about 100 and more preferably less than about 50, 25, 17 or 10 nucleotides in length.

The oligonucleotides can be DNA or RNA or chimeric mixtures or derivatives or modified versions thereof, single-stranded or double-stranded. The oligonucleotide can be modified at the base moiety, sugar moiety, or phosphate backbone, for example, to improve stability of the molecule, hybridization, etc. The oligonucleotide may include other appended groups such as peptides (e.g., for targeting host cell receptors), or agents facilitating transport across the cell membrane (see, e.g., Letsinger *et al.*, 1989, Proc. Natl. Acad. Sci. U.S.A. 86:6553-6556; Lemaitre *et al.*, 1987, Proc. Natl. Acad. Sci. 84:648-652; PCT Publication No. WO 88/098 10, published December 15, 1988) or the blood-brain barrier (see, e.g., PCT Publication No. WO 89/10 134, published April 25, 1988), hybridization-triggered cleavage agents (See, e.g., Krol *et al.*, 1988, BioTechniques 6:958-976), or intercalating agents (See, e.g., Zon, 1988, Pharm. Res. 5:539-549). To this end, the oligonucleotide may be conjugated to another molecule, e.g., a peptide, hybridization triggered cross-linking agent, transport agent, hybridization-triggered cleavage agent, etc.

The antisense oligonucleotide may comprise at least one modified base moiety which is selected from the group including but not limited to 5-fluorouracil, 5-bromouracil, 5-chlorouracil, 5-iodouracil, hypoxanthine, xantine, 4-acetylcytosine, 5-(carboxyhydroxytriethyl) uracil, 5-carboxymethylaminomethyl-2-thiouridine, 5-carboxymethylaminomethyluracil, dihydrouracil, beta-D-galactosylqueosine, inosine, N6-isopentenyladenine, 1-methylguanine, 1-methylinosine, 2,2-dimethylguanine, 2-methyladenine, 2-methylguanine, 3-methylcytosine, 5-methylcytosine, N6-adenine, 7-methylguanine, 5-methylaminomethyluracil, 5-methoxyaminomethyl-2-thiouracil, beta-D-mannosylqueosine, 5-methoxycarboxymethyluracil, 5-methoxyuracil, 2-methylthio-N6-isopentenyladenine, uracil-5-oxyacetic acid (v), wybutoxosine, pseudouracil, queosine, 2-thiocytosine, 5-methyl-2-thiouracil, 2-thiouracil, 4-thiouracil, 5-methyluracil, uracil-5-oxyacetic acid methylester, uracil-5-oxyacetic acid (v), 5-methyl-2-thiouracil, 3-(3-amino-3-N-2-carboxypropyl) uracil, (acp3)w, and 2,6-diaminopurine.

The antisense oligonucleotide may also comprise at least one modified sugar moiety selected from the group including but not limited to arabinose, 2-fluoroarabinose, xylulose, and hexose.

The antisense oligonucleotide can also contain a neutral peptide-like backbone. Such molecules are termed peptide nucleic acid (PNA)-oligomers and are described, e.g., in Peny-O'Keefe *et al.* (1996) Proc. Natl. Acad. Sci. U.S.A. 93:14670 and in Eglom *et al.* (1993) Nature 365:566. One advantage of PNA oligomers is their capability to bind to complementary DNA

essentially independent<sup>951</sup> from the ionic strength of the medium due to the neutral backbone of the DNA. In yet another embodiment, the antisense oligonucleotide comprises at least one modified phosphate backbone selected from the group consisting of a phosphorothioate, a phosphorodithioate, a phosphoramidothioate, a phosphoramidate, a phosphordiamidate, a methylphosphonate, an alkyl phosphotriester, and a formacetal or analog thereof.

In yet a further embodiment, the antisense oligonucleotide is an  $\alpha$ -anomeric oligonucleotide. An  $\alpha$ -anomeric oligonucleotide forms specific double-stranded hybrids with complementary RNA in which, contrary to the usual  $\beta$ -units, the strands run parallel to each other (Gautier *et al.*, 1987, Nucl. Acids Res. 15:6625-6641). The oligonucleotide is a 2'-O-methylribonucleotide (Inoue *et al.*, 1987, Nucl. Acids Res. 15:6131-12148), or a chimeric RNA-DNA analogue (Inoue *et al.*, 1987, FEBS Lett. 215:327-330).

Oligonucleotides of the invention may be synthesized by standard methods known in the art, e.g., by use of an automated DNA synthesizer (such as are commercially available from Biosearch, Applied Biosystems, etc.) based on the known sequence of the differentially expressed nucleic acid sequences. As examples, phosphorothioate oligonucleotides may be synthesized by the method of Stein *et al.* (1988, Nucl. Acids Res. 16:3209), methylphosphonate oligonucleotides can be prepared by use of controlled pore glass polymer supports (Sarin *et al.*, 1988, Proc. Natl. Acad. Sci. U.S.A. 85:7448-7451), etc.

While antisense nucleotides complementary to a coding region sequence can be used, those complementary to the transcribed untranslated region and to the region comprising the initiating methionine are most preferred.

The antisense molecules can be delivered to cells which express the target nucleic acid *in vivo*. A number of methods have been developed for delivering antisense DNA or RNA to cells; e.g., antisense molecules can be injected directly into the tissue site, or modified antisense molecules, designed to target the desired cells (e.g., antisense linked to peptides or antibodies that specifically bind receptors or antigens expressed on the target cell surface) can be administered systemically.

However, it is often difficult to achieve intracellular concentrations of the antisense sufficient to suppress translation on endogenous mRNAs. Therefore, a preferred approach utilizes a recombinant DNA construct in which the antisense oligonucleotide is placed under the control of a strong pol III or pol II promoter. The use of such a construct to transfect target cells

in an animal will result in the transcription of sufficient amounts of single stranded RNAs that will form complementary base pairs with the endogenous transcripts and thereby prevent translation of the target mRNA. For example, a vector can be introduced *in vivo* such that it is taken up by a cell and directs the transcription of an antisense RNA. Such a vector can remain episomal or become chromosomally integrated, as long as it can be transcribed to produce the desired antisense RNA. Such vectors can be constructed by recombinant DNA technology methods standard in the art, combined with those described above. Vectors can be plasmid, viral, or others known in the art for replication and expression in mammalian cells. Expression of the sequence encoding the antisense RNA can be by any promoter known in the art to act in animal, preferably mammalian cells. Such promoters can be inducible or constitutive. Such promoters include but are not limited to: the SV40 early promoter region (Bernoist and Chambon, 1981, Nature 290:304-310), the promoter contained in the 3' long terminal repeat of Rous sarcoma virus (Yamamoto *et al.*, 1980, Cell 22:787-797), the herpes thymidine kinase promoter (Wagner *et al.*, 1981, Proc. Natl. Acad. Sci. U.S.A. 78:1441-1445), the regulatory sequences of the metallothionein gene (Brinster *et al.*, 1982, Nature 296:39-42), etc. Any type of plasmid, cosmid, YAC or viral vector can be used to prepare the recombinant DNA construct which can be introduced directly into the tissue site; e.g., the spinal cord, or dorsal root ganglion. Alternatively, viral vectors can be used which selectively infect the desired tissue (e.g., for brain, herpesvirus vectors may be used), in which case administration may be accomplished by another route (e.g., systemically).

### *Ribozymes*

In another aspect of the invention, ribozyme molecules designed to catalytically cleave target mRNA transcripts can be used to prevent translation of target mRNA and expression of a target protein (See, e.g., PCT International Publication WO90/11364, published October 4, 1990; Sarver *et al.*, 1990, Science 247:1222-1225 and U.S. Patent No. 5,093,246). While ribozymes that cleave mRNA at site specific recognition sequences can be used to destroy target mRNAs, the use of hammerhead ribozymes is preferred. Hammerhead ribozymes cleave mRNAs at locations dictated by flanking regions that form complementary base pairs with the target mRNA. The sole requirement is that the target mRNA have the following sequence of two bases: 5'-UG-3'. Ribozymes, useful in the present invention may be designed based on the known sequence of the nucleic acid sequence identified as being differentially expressed in an animal subjected to pain as described above. The construction and production of hammerhead

ribozymes is well known in the art and is described more fully in Haseloff and Gerlach, 1988, Nature, 334:585-591. Preferably the ribozyme is engineered so that the cleavage recognition site is located near the 5' end of the target mRNA; i.e., to increase efficiency and minimize the intracellular accumulation of non-functional mRNA transcripts.

The ribozymes of the present invention also include RNA endoribonucleases (hereinafter "Cech-type ribozymes") such as the one which occurs naturally in *Tetrahymena thermophila* (known as the IVS, or L-19 IVS RNA) and which has been extensively described by Thomas Cech and collaborators (Zaug, et al., 1984, Science, 224:574-578; Zaug and Cech, 1986, Science, 231:470-475; Zaug, et al., 1986, Nature, 324:429-433; published International patent application No. W088/04300 by University Patents Inc.; Been and Cech, 1986, Cell, 47:207-216). The Cech-type ribozymes have an eight base pair active site which hybridizes to a target RNA sequence whereafter cleavage of the target RNA takes place. The invention encompasses those Cech-type ribozymes which target eight base-pair active site sequences that are present in a target gene.

As in the antisense approach, the ribozymes can be composed of modified oligonucleotides (e.g., for improved stability, targeting, etc.) and should be delivered to cells which express the target gene *in vivo*. A preferred method of delivery involves using a DNA construct "encoding" the ribozyme under the control of a strong constitutive pol III or pol II promoter, so that transfected cells will produce sufficient quantities of the ribozyme to destroy endogenous messages and inhibit translation. Because ribozymes, unlike antisense molecules, are catalytic, a lower intracellular concentration is required for efficiency.

Antisense RNA, DNA, and ribozyme molecules of the invention may be prepared by any method known in the art for the synthesis of DNA and RNA molecules. These include techniques for chemically synthesizing oligodeoxyribonucleotides and oligoribonucleotides well known in the art such as for example solid phase phosphoramidite chemical synthesis. The sequences of the antisense and ribozyme molecules will be based on the known sequence of the differentially expressed nucleic acid molecules. Alternatively, RNA molecules may be generated by *in vitro* and *in vivo* transcription of DNA sequences encoding the antisense RNA molecule. Such DNA sequences may be incorporated into a wide variety of vectors which incorporate suitable RNA polymerase promoters such as the T7 or SP6 polymerase promoters. Alternatively, antisense cDNA constructs that synthesize antisense RNA constitutively or inducibly, depending on the promoter used, can be introduced stably into cell lines.



Moreover, various well-known modifications to nucleic acid molecules may be introduced as a means of increasing intracellular stability and half-life. Possible modifications include but are not limited to the addition of flanking sequences of ribonucleotides or deoxyribonucleotides to the 5' and/or 3' ends of the molecule or the use of phosphorothioate or 2' O-methyl rather than phosphodiesterase linkages within the oligodeoxyribonucleotide backbone.

### *RNAi therapy*

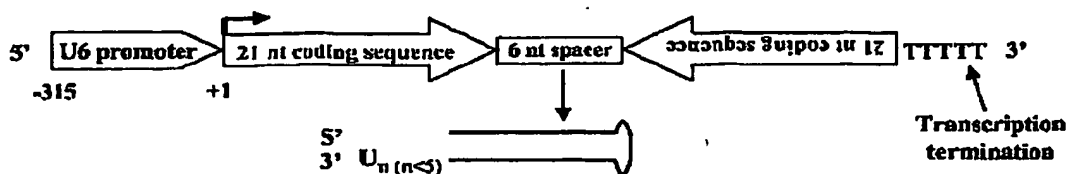
In another embodiment, a therapeutic agent according to the invention can be a double stranded RNAi molecule that is specifically targeted to one or more of the polynucleotide sequences which are differentially expressed in an animal subjected to pain relative to an animal that is not subjected to pain (see Tables 1, 2, 3, 4, or 5). As used herein, RNAi or RNA interference refers to the gene-specific, double stranded RNA (dsRNA) mediated, post-transcriptional silencing of gene expression as described in the review by Hannon, G., (2002) *Nature* 418, 244-250, which is herein incorporated in its entirety. Current experimental evidence indicates that RNAis specific for a target RNA are recognized and processed into 21 and 23 nucleotide small interfering RNAs (siRNAs) by the Dicer RNase III endonuclease. SiRNAs are then incorporated into a RNA induced silencing complex (RISC) which becomes activated by unwinding of the duplex siRNA. Activated RISC complexes then promote RNA degradation and translation inhibition of the target RNA.

In mammals, RNAi therapy, according to the invention, refers to gene-specific suppression that can be achieved by generating siRNA (Elbashir, S. M. et al. (2001) *Nature* (London) 411, 494-498). *In vitro* synthesized siRNAs can be prepared by any method known in the art for the synthesis of RNA molecules. These include techniques for chemically synthesizing oligoribonucleotides that are well known in the art, for example, solid phase phosphoramidite chemical synthesis. The sequences of the siRNA molecules are based on the known sequence of the differentially expressed nucleic acid molecules. Alternatively, siRNA molecules can be generated by the T7 or SP6 polymerase promoter driven *in vitro* transcription of DNA sequences encoding the siRNA molecule. *In vitro* synthesized siRNAs can be delivered to cells either by direct injection of *in vitro* synthesized siRNAs into the tissue site. Alternatively, modified siRNAs, designed to target the desired cells (via linkage to peptides or antibodies that specifically bind to cell surface receptors or antigens), can be administered systemically.

In a preferred embodiment, the siRNAs<sup>955</sup> of the invention are delivered to a target cell as an expression plasmid under the control of a RNA polymerase II or III promoter. When transcribed in the cell, siRNA is generated which is complementary to a cellular mRNA identified as being differentially expressed in an animal subjected to pain. The construction and use of expression plasmids is described above and may be adapted by one of skill in the art to include siRNA expression plasmids. Such vectors can be constructed by recombinant DNA technology methods standard in the art, combined with those described above. Vectors can be plasmid, viral, or others known in the art for replication and expression in mammalian cells. Expression of the sequence encoding the siRNA can be by any promoter known in the art to act in an animal, preferably mammalian cells. Such promoters can be inducible or constitutive. Such promoters include but are not limited to: the SV40 early promoter region (Bernoist and Chambon, 1981, *Nature* 290:304-310), the promoter contained in the 3' long terminal repeat of Rous sarcoma virus (Yamamoto *et al.*, 1980, *Cell* 22:787-797), the herpes thymidine kinase promoter (Wagner *et al.*, 1981, *Proc. Natl. Acad. Sci. U.S.A.* 78:1441-1445), the regulatory sequences of the metallothionein gene (Brinster *et al.*, 1982, *Nature* 296:39-42), etc as well as neural specific promoters, for example the nestin promoter. Any plasmid, cosmid, YAC or viral vector can be used to prepare the recombinant DNA construct which can be introduced directly into the tissue site; e.g., the spinal cord, or dorsal root ganglion. Alternatively, viral vectors can be used which selectively infect the desired tissue (e.g., for brain, herpes virus vectors may be used), in which case administration may be accomplished by another route (e.g., systemically).

In a preferred embodiment, the siRNA expression vectors of the invention are synthesized from a DNA template under the control of an RNA polymerase III (Pol III) promoter in transfected cells or transgenic animals (see below). Pol III directs the synthesis of small, noncoding transcripts whose 3' ends are defined by termination within a stretch of 4-5 thymidines (Ts) (Sui *et al.* *PNAS* (2002) vol. 99, 5515-5520). Addition of 3' overhangs contributes to the activity of siRNA synthesized *in vitro* (Elbashir, S. M *et al.* (2001) *Genes Dev.* 15, 188-200). Transfection of such a construct into target cells results in the transcription of sufficient amounts of siRNAs to base pair with the endogenous transcripts, promote its degradation and thereby prevent translation of the target mRNA. The vector can remain episomal or become chromosomally integrated. Alternatively the construct may be incorporated into a viral vector such as herpes virus vectors as described *supra*.

An example of mouse U6 pol III transcribed siRNA expression plasmid is shown below where the 21 nucleotide sequence is specific for one or more of the differentially expressed sequences shown in Tables 1, 2, 3, 4, or 5 (see Sui et al. PNAS (2002) vol. 99, 5515–5520):



### *Supplemental therapy*

The differentially expressed nucleic acid sequences described herein may exhibit either increased or decreased expression. The antisense methods described above are directed primarily at inhibiting the expression of a differentially overexpressed sequence. Alternatively, in the situation where differential expression is manifested in a decrease in sequence expression, the underexpressed sequence may be supplied to the animal in an expression vector as described above. If for example, through the process of identifying and verifying the differential expression of nucleic acid sequences obtained from an animal subjected to pain, a sequence is identified which is expressed at a level at least 1.2 fold less than in a naïve animal in at least three replicate analyses with a significance of  $p < 0.05$  (or, alternatively, at least 1.4 fold less), the sequence may be cloned into a suitable expression vector for expression of the sequence in the animal subjected to pain. Either viral or non-viral gene delivery methods may be used to introduce the construct into the animal cells as described above. Briefly, the deficient sequence may be cloned into any expression vector known in the art which is compatible with the animal cell into which it is intended to be introduced, and which is capable of supporting expression of the recombinant sequence. The vector used may be chosen to replicate episomally or may integrate in the cell chromosome, provided that either mode of replication permits the expression of the deficient nucleic acid sequence. Further, any promoter sequence which is sufficient to direct expression of the recombinant sequence may be used in the vector to direct expression of the sequence. In a preferred embodiment, the promoter is constitutively active in the animal, given that the goal is to attain a level of gene expression sufficient to replace the deficiently expressed sequence. In a further preferred embodiment, the promoter is a neuron-specific promoter. Vectors comprising the deficient sequence may be introduced into cells of the animal

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subjected to pain using any technique known to those of skill in the art including, but not limited to microinjection and viral delivery.

Similarly, those proteins which are encoded by polynucleotide sequences which are differentially expressed as indicated in Tables 1, 2, 3, 4, or 5, and which are also indicated in the column labeled "subcellular localization" (i.e., in Table 2) as being a secreted protein, may be screened for their ability to modulate the activity of one or more of the proteins indicated in Tables 1, 2, 3, 4, or 5, or screened for their ability to modulate pain in an animal.

Once a therapeutic gene is defined, whether it be an antisense molecule, ribozyme, or supplemental sequence, the gene sequence is subcloned into a vector suitable for the purpose of gene therapy. Murine leukemia virus (MLV)-based retroviral vectors are one of the most widely used gene delivery vehicles in gene therapy clinical trials and have been employed in almost 70% of approved protocols (Ali, M. et al., *Gene Ther.*, 1:367-384, 1994; Marshall, E., *Science*, 269:1050-1055, 1995). Other useful vectors are also known in the art (e.g., Carter and Samulski, 2000, *Int. J. Mol. Med.* 6:17-27; Lever et al., 1999, *Biochem. Soc. Trans.* 27: 841-7). Methods for gene therapy of human diseases are described in U.S. Patent Nos. 6,190,907; 6,187,305; 6,140,087; and 6,129,705.

### Screening Assays

#### *Protein Activity Regulators*

Regulators as used herein, refer to compounds that affect the activity of a "differentially expressed protein" in vivo and/or in vitro. As used herein, the term "differentially expressed protein (or polypeptide)" will refer to the proteins of Table 1, 2, 3, 4, or 5 that are encoded by sequences that are differentially expressed in pain. Regulators can be agonists and antagonists of a differentially expressed polypeptide and can be compounds that exert their effect on the differentially expressed protein activity via the enzymatic activity, expression, post-translational modifications or by other means. Agonists of a differentially expressed protein are molecules which, when bound to a differentially expressed protein, increase or prolong the activity of a differentially expressed protein. Agonists of a differentially expressed protein include proteins, nucleic acids, carbohydrates, small molecules, or any other molecule which activate a differentially expressed protein. Antagonists of a differentially expressed protein are molecules which, when bound to a differentially expressed protein, decrease the amount or the duration of the activity of a differentially expressed protein. Antagonists include proteins, nucleic acids,

carbohydrates, antibodies, small molecules, or any other molecule <sup>958</sup> which decrease the activity of a “differentially expressed protein”. The activity of a differentially expressed protein, useful in the present invention is indicated in Table 2, 3, 4, or 5 either directly in columns labeled “identifier”, “description” and/or “protein type”, or may be inferred from the information provided in the column labeled “subcellular localization” (Table 2). For example, if a protein is localized to the cell membrane, then one of skill in the art would be able to determine that the activity of such a protein would be that of a receptor, for example, or an ion channel, and screen candidate compounds against this protein activity accordingly.

The term “modulate”, as it appears herein, refers to a change in the activity of a differentially expressed protein. For example, modulation may cause an increase or a decrease in enzymatic activity, binding characteristics, or any other biological, functional, or immunological properties of a differentially expressed protein.

As used herein, the terms “specific binding” or “specifically binding” refer to that interaction between a protein or peptide and an agonist, an antibody, or an antagonist. The interaction is dependent upon the presence of a particular structure of the protein recognized by the binding molecule (i.e., the antigenic determinant or epitope). For example, if an antibody is specific for epitope “A” the presence of a polypeptide containing the epitope A, or the presence of free unlabeled A, in a reaction containing free labeled A and the antibody will reduce the amount of labeled A that binds to the antibody.

The invention provides methods (also referred to herein as “screening assays”) for identifying compounds which can be used for the treatment of pain. The methods entail the identification of candidate or test compounds or agents (e.g., peptides, peptidomimetics, small molecules or other molecules) which bind to a differentially expressed protein and/or have a stimulatory or inhibitory effect on the biological activity of a differentially expressed protein or its expression and then determining which of these compounds have an effect on pain symptoms in an in vivo assay.

Candidate or test compounds or agents which bind to a differentially expressed protein and/or have a stimulatory or inhibitory effect on the activity or the expression of a differentially expressed protein are identified either in assays that employ cells which express a differentially expressed protein (cell-based assays) or in assays with an isolated differentially expressed protein (cell-free assays). The various assays can employ a variety of variants of a differentially

expressed protein (e.g., full-length differentially expressed protein, a biologically active fragment of a differentially expressed protein, or a fusion protein which includes all or a portion of a differentially expressed protein). Moreover, a differentially expressed protein can be derived from any suitable mammalian species (e.g., human differentially expressed protein, rat differentially expressed protein or murine differentially expressed protein). The assay can be a binding assay entailing direct or indirect measurement of the binding of a test compound or a known differentially expressed protein ligand to a differentially expressed protein. The assay can also be an activity assay entailing direct or indirect measurement of the activity of a differentially expressed protein. The assay can also be an expression assay entailing direct or indirect measurement of the expression of a differentially expressed protein mRNA or a differentially expressed protein. The various screening assays are combined with an in vivo assay entailing measuring the effect of the test compound on the pain symptoms.

In one embodiment, the invention provides assays for screening candidate or test compounds which bind to or modulate the activity of a membrane-bound (cell surface expressed) form of the differentially expressed protein. Such assays can employ the full-length differentially expressed protein, a biologically active fragment of the differentially expressed protein, or a fusion protein which includes all or a portion of the differentially expressed protein. As described in greater detail below, the test compound can be obtained by any suitable means, e.g., from conventional compound libraries. Determining the ability of the test compound to bind to a membrane-bound form of the differentially expressed protein can be accomplished, for example, by coupling the test compound with a radioisotope or enzymatic label such that binding of the test compound to the differentially expressed protein-expressing cell can be measured by detecting the labeled compound in a complex. For example, the test compound can be labelled with  $^{125}\text{I}$ ,  $^{35}\text{S}$ ,  $^{14}\text{C}$ , or  $^3\text{H}$ , either directly or indirectly, and the radioisotope detected by direct counting of radioemission or by scintillation counting. Alternatively, the test compound can be enzymatically labelled with, for example, horseradish peroxidase, alkaline phosphatase, or luciferase, and the enzymatic label detected by determination of conversion of an appropriate substrate to product.

In a competitive binding format, the assay comprises contacting the differentially expressed protein-expressing cell with a known compound which binds to the differentially expressed protein to form an assay mixture, contacting the assay mixture with a test compound, and determining the ability of the test compound to interact with the differentially expressed

protein-expressing cell, wherein determining the ability of the test compound to interact with the differentially expressed protein-expressing cell comprises determining the ability of the test compound to preferentially bind the differentially expressed protein expressing cell as compared to the known compound.

In another embodiment, the assay is a cell-based assay comprising contacting a cell expressing a membrane-bound form of the differentially expressed protein (e.g., full-length differentially expressed protein, a biologically active fragment of the differentially expressed protein, or a fusion protein which includes all or a portion of the differentially expressed protein) expressed on the cell surface with a test compound and determining the ability of the test compound to modulate (e.g., stimulate or inhibit) the activity of the membrane-bound form of the differentially expressed protein. Determining the ability of the test compound to modulate the activity of the membrane-bound form of the differentially expressed protein can be accomplished by any method suitable for measuring the activity of the differentially expressed protein, e.g., any method suitable for measuring the activity of a G-protein coupled receptor or other seven-transmembrane receptor (described in greater detail below). The activity of a seven-transmembrane receptor can be measured in a number of ways, not all of which are suitable for any given receptor. Among the measures of activity are: alteration in intracellular  $\text{Ca}^{2+}$  concentration, activation of phospholipase C, alteration in intracellular inositol triphosphate (IP3) concentration, alteration in intracellular diacylglycerol (DAG) concentration, and alteration in intracellular adenosine cyclic 3', 5'-monophosphate (cAMP) concentration.

The present invention includes biochemical, cell free assays that allow the identification of inhibitors and agonists of phosphodiesterases (PDEs) suitable as lead structures for pharmacological drug development. Such assays involve contacting a form of a differentially expressed protein (e.g., full-length differentially expressed protein, a biologically active fragment of a differentially expressed protein, or a fusion protein comprising all or a portion of a differentially expressed protein) with a test compound and determining the ability of the test compound to act as an antagonist (preferably) or an agonist of the enzymatic activity of a differentially expressed protein. In one embodiment, the assay includes monitoring the PDE activity of a differentially expressed protein by measuring the conversion of either cAMP or cGMP to its nucleoside monophosphate after contacting a differentially expressed protein with a test compound.

For example, ~~AMP~~ and cGMP levels can be measured by the use of the tritium containing compounds 3HcAMP and 3HcGMP as described in [Hansen, K.S., and Beavo, J.A., PNAS USA1982;79: 2788-92]. To screen a compound pool comprised of a large number of compounds, the microtiter plate-based scintillation proximity assay (SPA) as described in [Bardelle, C. et al. (1999) Anal. Biochem. 275: 148-155] can be applied.

Alternatively, the phosphodiesterase activity of the recombinant protein can be assayed using a commercially available SPA kit (Amersham Pharmacia). The PDE enzyme hydrolyzes cyclic nucleotides, e.g. cAMP and cGMP to their linear counterparts. The SPA assay utilizes the tritiated cyclic nucleotides [3H]cAMP or [3H]cGMP, and is based upon the selective interaction of the tritiated non cyclic product with the SPA beads whereas the cyclic substrates are not effectively binding. Radiolabelled product bound to the scintillation beads generates light that can be analyzed in a scintillation counter.

The cell-free assays of the present invention are amenable to use of either a membrane-bound form of the differentially expressed protein or a soluble fragment thereof. In the case of cell-free assays comprising the membrane-bound form of the polypeptide, it may be desirable to utilize a solubilizing agent such that the membrane-bound form of the polypeptide is maintained in solution. Examples of such solubilizing agents include, but are not limited to, non-ionic detergents such as n-octylglucoside, n-dodecylglucoside, n-dodecylmaltoside, octanoyl-N-methylglucamide, decanoyl-N-methylglucamide, Triton X-100, Triton X-114, Thesit, Iso-tri-decy-poly-(ethylene glycol ether)n, 3-[(3-cholamidopropyl)dimethylamminio]-1-propane sulfonate (CHAPS), 3-[(3-cholamidopropyl)dimethylamminio]-2-hydroxy-1-propane sulfonate (CHAPSO), or N-dodecyl=N,N-dimethyl-3-ammonio-1-propane sulfonate.

In one embodiment, the invention provides assays for screening candidate or test compounds which bind to or modulate the activity of a differentially expressed protein. Such assays can employ full-length differentially expressed protein, a biologically active fragment of a differentially expressed protein, or a fusion protein which includes all or a portion of a differentially expressed protein. As described in greater detail below, the test compound can be obtained by any suitable means, e.g., from conventional compound libraries.

Determining the ability of the test compound to modulate the activity of a differentially expressed protein can be accomplished, for example, by determining the ability of a differentially expressed protein to bind to or interact with a target molecule. The target molecule



can be a molecule with which a differentially expressed protein binds<sup>962</sup> or interacts with in nature. The target molecule can be a component of a signal transduction pathway which facilitates transduction of an extracellular signal. The target differentially expressed protein molecule can be, for example, a second intracellular protein which has catalytic activity or a protein which facilitates the association of downstream signaling molecules with a differentially expressed protein.

Determining the ability of a differentially expressed protein to bind to or interact with a target molecule can be accomplished by one of the methods described above for determining direct binding. In one embodiment, determining the ability of a polypeptide of the invention to bind to or interact with a target molecule can be accomplished by determining the activity of the target molecule. For example, the activity of the target molecule can be determined by detecting induction of a cellular second messenger of the target (e.g., intracellular  $\text{Ca}^{2+}$ , diacylglycerol, IP3, etc.), detecting catalytic/enzymatic activity of the target on an appropriate substrate, detecting the induction of a reporter gene (e.g., a regulatory element that is responsive to a polypeptide of the invention operably linked to a nucleic acid encoding a detectable marker, e.g., luciferase), or detecting a cellular response.

In various embodiments of the above assay methods of the present invention, it may be desirable to immobilize a differentially expressed protein (or a differentially expressed protein target molecule) to facilitate separation of complexed from uncomplexed forms of one or both of the proteins, as well as to accommodate automation of the assay. Binding of a test compound to a differentially expressed protein, or interaction of a differentially expressed protein with a target molecule in the presence and absence of a candidate compound, can be accomplished in any vessel suitable for containing the reactants. Examples of such vessels include microtitre plates, test tubes, and micro-centrifuge tubes. In one embodiment, a fusion protein can be provided which adds a domain that allows one or both of the proteins to be bound to a matrix. For example, glutathione-S-transferase (GST) fusion proteins or glutathione-S-transferase fusion proteins can be adsorbed onto glutathione sepharose beads (Sigma Chemical; St. Louis, Mo.) or glutathione derivatized microtitre plates, which are then combined with the test compound or the test compound and either the non-adsorbed target protein or a differentially expressed protein, and the mixture incubated under conditions conducive to complex formation (e.g., at physiological conditions for salt and pH). Following incubation, the beads or microtitre plate wells are washed to remove any unbound components and complex formation is measured either

directly or indirectly, <sup>963</sup>for example, as described above. Alternatively, ~~the complexes can be~~ dissociated from the matrix, and the level of binding or activity of a differentially expressed protein can be determined using standard techniques.

Other techniques for immobilizing proteins on matrices can also be used in the screening assays of the invention. For example, either a differentially expressed protein or its target molecule can be immobilized utilizing conjugation of biotin and streptavidin. Biotinylated polypeptide of the invention or target molecules can be prepared from biotin-NHS (N-hydroxy-succinimide) using techniques well known in the art (e.g., biotinylation kit, Pierce Chemicals; Rockford, Ill.), and immobilized in the wells of streptavidin-coated plates (Pierce Chemical). Alternatively, antibodies reactive with a differentially expressed protein or target molecules but which do not interfere with binding of the polypeptide of the invention to its target molecule can be derivatized to the wells of the plate, and unbound target or polypeptide of the invention trapped in the wells by antibody conjugation. Methods for detecting such complexes, in addition to those described above for the GST-immobilized complexes, include immuno-detection of complexes using antibodies reactive with a differentially expressed protein or target molecule, as well as enzyme-linked assays which rely on detecting an enzymatic activity associated with a differentially expressed protein or target molecule.

Another technique for drug screening which may be used provides for high throughput screening of compounds having suitable binding affinity to the protein of interest as described in published PCT application WO84/03564. In this method, large numbers of different small test compounds are synthesized on a solid substrate, such as plastic pins or some other surface. The test compounds are reacted with a differentially expressed protein, or fragments thereof, and washed. Bound differentially expressed protein is then detected by methods well known in the art. Purified differentially expressed protein can also be coated directly onto plates for use in the afore-mentioned drug screening techniques. Alternatively, non-neutralizing antibodies can be used to capture the peptide and immobilize it on a solid support.

In another embodiment, one may use competitive drug screening assays in which neutralizing antibodies capable of binding differentially expressed protein specifically compete with a test compound for binding a differentially expressed protein. In this manner, antibodies can be used to detect the presence of any peptide which shares one or more antigenic determinants with a differentially expressed protein.

The screening<sup>964</sup> assay can also involve monitoring the expression of a differentially expressed protein. For example, regulators of expression of a differentially expressed protein can be identified in a method in which a cell is contacted with a candidate compound and the expression of a differentially expressed protein or mRNA in the cell is determined. The level of expression of a differentially expressed protein or mRNA in the presence of the candidate compound is compared to the level of expression of a differentially expressed protein or mRNA in the absence of the candidate compound. The candidate compound can then be identified as a regulator of expression of a differentially expressed protein based on this comparison. For example, when expression of a differentially expressed protein or mRNA is greater (statistically significantly greater) in the presence of the candidate compound than in its absence, the candidate compound is identified as a stimulator of a differentially expressed protein or mRNA expression. Alternatively, when expression of a differentially expressed protein or mRNA is less (statistically significantly less) in the presence of the candidate compound than in its absence, the candidate compound is identified as an inhibitor of a differentially expressed protein or mRNA expression. The level of a differentially expressed protein or mRNA expression in the cells can be determined by methods described below.

#### *Screening for therapeutic agents using Binding Assays*

For binding assays, the test compound is preferably a small molecule which binds to and occupies the active site of a differentially expressed protein polypeptide, thereby making the ligand binding site inaccessible to substrate such that normal biological activity is prevented. Examples of such small molecules include, but are not limited to, small peptides or peptide-like molecules. Potential ligands which bind to a polypeptide of the invention include, but are not limited to, the natural ligands of known differentially expressed protein PDEs and analogues or derivatives thereof.

In binding assays, either the test compound or the differentially expressed polypeptide can comprise a detectable label, such as a fluorescent, radioisotopic, chemiluminescent, or enzymatic label, such as horseradish peroxidase, alkaline phosphatase, or luciferase. Detection of a test compound which is bound to differentially expressed polypeptide can then be accomplished, for example, by direct counting of radioemmission, by scintillation counting, or by determining conversion of an appropriate substrate to a detectable product. Alternatively, binding of a test compound to a differentially expressed polypeptide can be determined without labeling either of the interactants. For example, a microphysiometer can be used to detect

binding of a test compound with a differentially expressed polypeptide<sup>965</sup>. A microphysiometer (e.g., Cytosensor™) is an analytical instrument that measures the rate at which a cell acidifies its environment using a light-addressable potentiometric sensor (LAPS). Changes in this acidification rate can be used as an indicator of the interaction between a test compound and a differentially expressed protein [Haseloff, (1988)].

Determining the ability of a test compound to bind to differentially expressed protein also can be accomplished using a technology such as real-time Bimolecular Interaction Analysis (BIA) [McConnell, (1992); Sjolander, (1991)]. BIA is a technology for studying biospecific interactions in real time, without labeling any of the interactants (e.g., BIAcore™). Changes in the optical phenomenon surface plasmon resonance (SPR) can be used as an indication of real-time reactions between biological molecules.

In yet another aspect of the invention, a differentially expressed protein-like polypeptide can be used as a "bait protein" in a two-hybrid assay or three-hybrid assay [Szabo, (1995); U.S. 5,283,317], to identify other proteins which bind to or interact with a differentially expressed protein and modulate its activity.

The two-hybrid system is based on the modular nature of most transcription factors, which consist of separable DNA-binding and activation domains. Briefly, the assay utilizes two different DNA constructs. For example, in one construct, polynucleotide encoding a differentially expressed protein can be fused to a polynucleotide encoding the DNA binding domain of a known transcription factor (e.g., GAL-4). In the other construct a DNA sequence that encodes an unidentified protein ("prey" or "sample") can be fused to a polynucleotide that codes for the activation domain of the known transcription factor. If the "bait" and the "prey" proteins are able to interact in vivo to form a protein-dependent complex, the DNA-binding and activation domains of the transcription factor are brought into close proximity. This proximity allows transcription of a reporter gene (e.g., LacZ), which is operably linked to a transcriptional regulatory site responsive to the transcription factor. Expression of the reporter gene can be detected, and cell colonies containing the functional transcription factor can be isolated and used to obtain the DNA sequence encoding the protein which interacts with a differentially expressed protein.

It may be desirable to immobilize either the differentially expressed protein (or polynucleotide) or the test compound to facilitate separation of the bound form from unbound

forms of one or both of the interactants, as well as to accommodate <sup>966</sup>an optimization of the assay. Thus, either the differentially expressed protein-like polypeptide (or polynucleotide) or the test compound can be bound to a solid support. Suitable solid supports include, but are not limited to, glass or plastic slides, tissue culture plates, microtiter wells, tubes, silicon chips, or particles such as beads (including, but not limited to, latex, polystyrene, or glass beads). Any method known in the art can be used to attach the differentially expressed protein-like polypeptide (or polynucleotide) or test compound to a solid support, including use of covalent and non-covalent linkages, passive absorption, or pairs of binding moieties attached respectively to the polypeptide (or polynucleotide) or test compound and the solid support. Test compounds are preferably bound to the solid support in an array, so that the location of individual test compounds can be tracked. Binding of a test compound to the differentially expressed protein (or a polynucleotide encoding for the differentially expressed protein) can be accomplished in any vessel suitable for containing the reactants. Examples of such vessels include microtiter plates, test tubes, and microcentrifuge tubes.

In one embodiment, the differentially expressed protein is a fusion protein comprising a domain that allows binding of the differentially expressed protein to a solid support. For example, glutathione-S-transferase fusion proteins can be adsorbed onto glutathione sepharose beads (Sigma Chemical, St. Louis, Mo.) or glutathione derivatized microtiter plates, which are then combined with the test compound or the test compound and the non-adsorbed differentially expressed protein; the mixture is then incubated under conditions conducive to complex formation (e.g., at physiological conditions for salt and pH). Following incubation, the beads or microtiter plate wells are washed to remove any unbound components. Binding of the interactants can be determined either directly or indirectly, as described above. Alternatively, the complexes can be dissociated from the solid support before binding is determined.

Other techniques for immobilizing proteins or polynucleotides on a solid support also can be used in the screening assays of the invention. For example, either the differentially expressed protein (or a polynucleotide encoding the differentially expressed protein) or a test compound can be immobilized utilizing conjugation of biotin and streptavidin. Biotinylated differentially expressed protein (or a polynucleotide encoding biotinylated differentially expressed protein) or test compounds can be prepared from biotin-NHS (N-hydroxysuccinimide) using techniques well known in the art (e.g., biotinylation kit, Pierce Chemicals, Rockford, Ill.) and immobilized in the wells of streptavidin-coated plates (Pierce Chemical). Alternatively, antibodies which

specifically bind to the differentially expressed protein, polynucleotide<sup>967</sup>, or a test compound, but which do not interfere with a desired binding site, such as the active site of the differentially expressed protein, can be derivatized to the wells of the plate. Unbound target or protein can be trapped in the wells by antibody conjugation.

Methods for detecting such complexes; in addition to those described above for the GST-immobilized complexes, include immunodetection of complexes using antibodies which specifically bind to the differentially expressed protein or test compound, enzyme-linked assays which rely on detecting an activity of the differentially expressed protein, and SDS gel electrophoresis under non-reducing conditions.

Screening for test compounds which bind to the differentially expressed protein or polynucleotide also can be carried out in an intact cell. Any cell which comprises the differentially expressed polypeptide or polynucleotide can be used in a cell-based assay system. A differentially expressed protein polynucleotide can be naturally occurring in the cell or can be introduced using techniques such as those described above. Binding of the test compound to the differentially expressed protein or a polynucleotide encoding the differentially expressed protein is determined as described above.

#### *Functional Assays*

Test compounds can be tested for the ability to increase or decrease activity of a differentially expressed polypeptide. The differentially expressed protein activity can be measured, for example, using methods described in the specific examples, below. differentially expressed protein activity can be measured after contacting either a purified differentially expressed protein or an intact cell with a test compound. A test compound which decreases the differentially expressed protein activity by at least about 10, preferably about 50, more preferably about 75, 90, or 100% is identified as a potential agent for decreasing the differentially expressed protein activity. A test compound which increases the differentially expressed protein activity by at least about 10, preferably about 50, more preferably about 75, 90, or 100% is identified as a potential agent for increasing the differentially expressed protein activity.

#### *Gene Expression*

In another embodiment, test compounds which increase or decrease the differentially expressed protein gene expression are identified (i.e., test compounds which increase or decrease the expression of a differentially expressed polynucleotide sequence of the invention). As used herein, the term "correlates with expression of a poly-nucleotide" indicates that the detection of the presence of nucleic acids, the same or related to a nucleic acid sequence encoding the differentially expressed protein, by northern analysis or realtime PCR is indicative of the presence of nucleic acids encoding the differentially expressed protein in a sample, and thereby correlates with expression of the transcript from the polynucleotide encoding the differentially expressed protein. The term "microarray", as used herein, refers to an array of distinct polynucleotides or oligonucleotides arrayed on a substrate, such as paper, nylon or any other type of membrane, filter, chip, glass slide, or any other suitable solid support. A differentially expressed protein polynucleotide is contacted with a test compound, and the expression of an RNA or polypeptide product of the differentially expressed protein polynucleotide is determined. The level of expression of appropriate mRNA or polypeptide in the presence of the test compound is compared to the level of expression of mRNA or polypeptide in the absence of the test compound. The test compound can then be identified as a regulator of expression based on this comparison. For example, when expression of mRNA or polypeptide is greater in the presence of the test compound than in its absence, the test compound is identified as a stimulator or enhancer of the mRNA or polypeptide expression. Alternatively, when expression of the mRNA or polypeptide is less in the presence of the test compound than in its absence, the test compound is identified as an inhibitor of the mRNA or polypeptide expression.

The level of the differentially expressed protein mRNA or polypeptide expression in the cells can be determined by methods well known in the art for detecting mRNA or polypeptide. Either qualitative or quantitative methods can be used. The presence of polypeptide products of the differentially expressed protein polynucleotide can be determined, for example, using a variety of techniques known in the art, including immunochemical methods such as radioimmunoassay, Western blotting, and immunohistochemistry. Alternatively, polypeptide synthesis can be determined in vivo, in a cell culture, or in an in vitro translation system by detecting incorporation of labelled amino acids into the differentially expressed protein.

Such screening can be carried out either in a cell-free assay system or in an intact cell. Any cell which expresses the differentially expressed protein polynucleotide can be used in a cell-based assay system. The differentially expressed protein polynucleotide can be naturally

occurring in the cell ~~or~~ can be introduced using techniques such as those described above. Either a primary culture or an established cell line can be used.

*Screening of therapeutic agents against pain-specific array*

In one embodiment the present invention provides a method for screening agents for their ability to regulate the expression of genes which are differentially expressed in an animal subjected to pain. In brief, the method comprises administering to an animal subjected to pain, such as an animal pain model, a potentially therapeutic agent, isolating nucleic acid from sensory neurons of the animal, preparing the nucleic acid for hybridization to a microarray as described above, and hybridizing the nucleic acid to a pain-specific microarray. The hybridization level is then compared to the hybridization of a nucleic acid sample contacted with the pain-specific microarray obtained from an animal subjected to pain, but not administered the potentially therapeutic agent. In one embodiment, the potentially therapeutic agent is deemed to be therapeutic if the expression level of the nucleic acid sequence obtained from the animal subjected to pain and treated with the agent is no longer differentially expressed by at least 1.4 fold, and wherein the expression of the nucleic acid sequence obtained from the animal subjected to pain but not treated with the agent remains differentially regulated. The nucleic acid sequences analyzed to determine therapeutic efficacy can include any of the sequences previously identified (see above) as being differentially expressed in an animal subjected to pain.

Animals may be administered any potentially therapeutic agent known in the art, including antisense molecules, ribozymes, and supplemental nucleic acid sequences as described above. Additional therapeutic agents include any agent known in the art which is routinely administered for the amelioration of pain including, but not limited to aspirin, ibuprofen, narcotics, steroidal and non-steroidal anti-inflammatories, and the like. These agents are administered according to dosing protocols well known in the art.

*Screening of therapeutic agents against individual genes that are differentially expressed in pain*

Candidate therapeutic agents of the invention are screened for their ability to regulate the expression of one or more isolated polynucleotide sequences which have been identified herein as differentially regulated in an animal which has been subjected to pain relative to an animal that is not subjected to pain. In one embodiment, the screen consists of administering a candidate therapeutic agent, as defined herein, or a placebo, to an animal that is subjected to pain and



hybridizing a nucleic acid sample, corresponding to RNA obtained from such a treated or non-treated animal, to a probe specific for a polynucleotide sequence selected from the group of isolated polynucleotide sequences of Tables 1, 2, 3, 4, or 5. In another embodiment, the screen consists of administering a candidate therapeutic agent, as defined herein, or a placebo, to an *in vitro* cell culture of primary cells for example, primary neurons, that naturally express polynucleotide sequences selected from the group of isolated polynucleotide sequences of Tables 1, 2, 3, 4, or 5. In a further embodiment, the screen consists of administering a candidate therapeutic agent, as defined herein, or a placebo, to cell lines that have been transfected with vectors that direct the expression of polynucleotide sequences selected from the group of isolated polynucleotide sequences of Tables 1, 2, 3, 4, or 5. In a further embodiment, the screen consists of administering a candidate therapeutic agent, as defined herein, or a placebo, to a transgenic animal in which a neural specific promoter drives the expression of a polynucleotide sequence selected from the group of isolated polynucleotide sequences of Tables 1, 2, 3, 4, or 5. In all instances, a 10% increase or decrease in the differential expression of a gene in response to a therapeutic compound is indicative of a therapeutic agent that can modulate the differential expression of a gene that is differentially regulated in an animal which has been subjected to pain relative to an animal that is not subjected to pain. In a preferred embodiment, nucleic acid samples obtained from treated and non-treated animals or *in vitro* cell cultures are hybridized to 1 or more, 2 or more, 5 or more, 50 or more, 100 or more, 500 or more, 1000 or more probes, each probe being specific to a polynucleotide sequence selected from the group of differentially expressed polynucleotide sequences of Tables 1, 2, 3, 4, or 5.

Methods for measuring the differential expression of one or more of the polynucleotides sequences of Tables 1, 2, 3, 4, or 5 in nucleic acid samples from treated animals relative to non-treated animals, are well known in the art and include, but are not limited to, reverse transcription PCR (RT-PCR; described in U.S. Patent No. 5,407,800), Taqman (as disclosed in U.S. Patent Nos. 5,210,015 and 5,487,972), Molecular Beacon assays (as disclosed in WO 95/13399), Northern blot hybridization, S1 nuclease mapping, RNase protection assays which are described in the literature. See, e.g., Sambrook, Fritsch & Maniatis, 1989, Molecular Cloning: A Laboratory Manual, Second Edition ; Oligonucleotide Synthesis (M.J. Gait, ed., 1984); Nucleic Acid Hybridization (B.D. Harnes & S.J. Higgins, eds., 1984); A Practical Guide to Molecular Cloning (B. Perbal, 1984); and a series, Methods in Enzymology (Academic Press, Inc.); Short Protocols In Molecular Biology, (Ausubel et al., ed., 1995). References to patents and literature are by incorporated in their entirety.

Compounds identified as positives based on this screen<sup>971</sup> can be further tested for activity in the *in vitro* cell culture assay, *in vivo* protein activity assay or analgesic assays, described herein, to determine if these compounds are effective at modulating differential gene expression in response to pain and ultimately attenuating pain itself.

### *Polypeptide Activity*

In one embodiment, the present invention provides a method for screening potentially therapeutic agents which modulate the activity of one or more polypeptides encoded by one or more of the polynucleotide sequences in Tables 1, 2, 3, 4, or 5, such that if the activity of the polypeptide is increased in an animal subjected to pain, the therapeutic substance will decrease the activity of the polypeptide relative to the activity of the same polypeptide in an animal subjected to pain, but not treated with the therapeutic agent. Likewise, if the activity of the polypeptide is decreased in an animal subjected to pain, the therapeutic substance will increase the activity of the polypeptide relative to the activity of the same polypeptide in an animal subjected to the same pain, but not treated with the therapeutic agent.

The activity of the polypeptide molecules encoded by the polynucleotides indicated in Tables 1, 2, 3, 4, or 5 may be measured by any means known to those of skill in the art, and which are particular for the type of activity performed by the particular polypeptide. Examples of specific assays which may be used to measure the activity of particular polynucleotide products are shown below.

#### (a) G-protein coupled receptors

In one embodiment, the one or more of the differentially regulated polynucleotides of Tables 1, 2, 3, 4, or 5 may encode a G-protein coupled receptor. In one embodiment, the present invention provides a method of screening potential agonists and antagonists of the family of G-protein coupled receptors, including  $G_s$ ,  $G_i$ , and  $G_q$ , encoded by the differentially expressed polynucleotides of the present invention by measuring changes in the activity of these receptors in the presence of a candidate agonist or antagonist.

##### 1. $G_i$ -coupled receptor screening

Cells (such as CHO cells, or primary cells) are stably transfected with the relevant receptor and with an inducible CRE-luciferase construct. Cells are grown in 50% Dulbecco's modified Eagle medium / 50% F12 (DMEM/F12) supplemented with 10% FBS, at 37°C in a

humidified atmosphere with 10% CO<sub>2</sub> and are routinely split at a ratio of 1:10 every 2 or 3 days. Test cultures are seeded into 384 – well plates at an appropriate density (e.g. 2000 cells / well in 35 µl cell culture medium) in DMEM/F12 with FBS, and are grown for 48 hours (range: ~ 24 - 60 hours, depending on cell line). Growth medium is then exchanged against serum free medium (SFM; e.g. Ultra-CHO), containing 0,1% BSA. Test compounds dissolved in DMSO are diluted in SFM and transferred to the test cultures (maximal final concentration 10 µmolar), followed by addition of forskolin (~ 1 µmolar, final conc.) in SFM + 0,1% BSA 10 minutes later. In case of antagonist screening both, an appropriate concentration of agonist, and forskolin are added. The plates are incubated at 37°C in 10% CO<sub>2</sub> for 3 hours. Then the supernatant is removed, cells are lysed with lysis reagent (25 mmolar phosphate-buffer, pH 7,8 , containing 2 mmolar DDT, 10% glycerol and 3% Triton X100). The luciferase reaction is started by addition of substrate-buffer (e.g. luciferase assay reagent, Promega) and luminescence is immediately determined (e.g. Berthold luminometer or Hamamatsu camera system).

## 2. G<sub>s</sub> –coupled receptor screening

Cells (such as CHO, or primary cells) are stably transfected with the relevant receptor and with an inducible CRE-luciferase construct. Cells are grown in 50% Dulbecco's modified Eagle medium / 50% F12 (DMEM/F12) supplemented with 10% FBS, at 37°C in a humidified atmosphere with 10% CO<sub>2</sub> and are routinely split at a ratio of 1:10 every 2 or 3 days. Test cultures are seeded into 384 – well plates at an appropriate density (e.g. 1000 or 2000 cells / well in 35 µl cell culture medium) in DMEM/F12 with FBS, and are grown for 48 hours (range: ~ 24 - 60 hours, depending on cell line). The assay is started by addition of test-compounds in serum free medium (SFM; e.g. Ultra-CHO) containing 0,1% BSA: Test compounds are dissolved in DMSO, diluted in SFM and transferred to the test cultures (maximal final concentration 10 µmolar, DMSO conc. < 0,6 %). In case of antagonist screening an appropriate concentration of agonist is added 5 – 10 minutes later. The plates are incubated at 37°C in 10% CO<sub>2</sub> for 3 hours. Then the cells are lysed with 10 µl lysis reagent per well (25 mmolar phosphate-buffer, pH 7,8 , containing 2 mmolar DDT, 10% glycerol and 3% Triton X100) and the luciferase reaction is started by addition of 20 µl substrate-buffer per well (e.g. luciferase assay reagent, Promega). Measurement of luminescence is started immediately (e.g. Berthold luminometer or Hamamatsu camera system).

## 3. G<sub>q</sub> –coupled receptor screening

Cells (such as CHO, or primary cells) are stably transfected with the relevant receptor.<sup>973</sup> Cells expressing functional receptor protein are grown in 50% Dulbecco's modified Eagle medium / 50% F12 (DMEM/F12) supplemented with 10% FBS, at 37°C in a humidified atmosphere with 5% CO<sub>2</sub> and are routinely split at a cell line dependent ratio every 3 or 4 days. Test cultures are seeded into 384 – well plates at an appropriate density (e.g. 2000 cells / well in 35 µl cell culture medium) in DMEM/F12 with FBS, and are grown for 48 hours (range: ~ 24 - 60 hours, depending on cell line). Growth medium is then exchanged against physiological salt solution (e.g. Tyrode solution). Test compounds dissolved in DMSO are diluted in Tyrode solution containing 0.1% BSA and transferred to the test cultures (maximal final concentration 10 µmolar). After addition of the receptor specific agonist the resulting Gq-mediated intracellular calcium increase is measured using appropriate read-out systems (e.g. calcium-sensitive dyes).

(b) Ion channels

Ion channels are integral membrane proteins involved in electrical signaling, transmembrane signal transduction, and electrolyte and solute transport. By forming macromolecular pores through the membrane lipid bilayer, ion channels account for the flow of specific ion species driven by the electrochemical potential gradient for the permeating ion. At the single molecule level, individual channels undergo conformational transitions ("gating") between the 'open' (ion conducting) and 'closed' (non conducting) state. Typical single channel openings last for a few milliseconds and result in elementary transmembrane currents in the range of 10<sup>-9</sup> - 10<sup>-12</sup> Ampere. Channel gating is controlled by various chemical and/or biophysical parameters, such as neurotransmitters and intracellular second messengers ('ligand-gated' channels) or membrane potential ('voltage-gated' channels). Ion channels are functionally characterized by their ion selectivity, gating properties, and regulation by hormones and pharmacological agents. Because of their central role in signaling and transport processes, ion channels present ideal targets for pharmacological therapeutics in various pathophysiological settings.

In one embodiment, the one or more of the differentially regulated polynucleotides of Tables 1, 2, 3, 4, or 5 may encode an ion channel. In one embodiment, the present invention provides a method of screening potential activators or inhibitors of channel activity encoded by the differentially expressed polynucleotides of the present invention. Screening for compounds interacting with ion channels to either inhibit or promote their activity can be based on (1.)

binding and (2.) functional assays in living cells (see for example, Hille<sup>974</sup>, 1992, Ion Channels of Excitable Membranes Sunderland, MA, Sinauer Associates, Inc.; incorporated herein by reference in its entirety).

1. For ligand-gated channels, e.g. ionotropic neurotransmitter/hormone receptors, assays can be designed detecting binding to the target by competition between the compound and a labeled ligand.

2. Ion channel function can be tested functionally in living cells. Target proteins are either expressed endogenously in appropriate reporter cells or are introduced recombinantly. Channel activity can be monitored by (2.1) concentration changes of the permeating ion (most prominently  $\text{Ca}^{2+}$  ions), (2.2) by changes in the transmembrane electrical potential gradient, and (2.3) by measuring a cellular response (e.g. expression of a reporter gene, secretion of a neurotransmitter) triggered or modulated by the target activity.

2.1. Channel activity results in transmembrane ion fluxes. Thus activation of ionic channels can be monitored by the resulting changes in intracellular ion concentrations using luminescent or fluorescent indicators. Because of its wide dynamic range and availability of suitable indicators this applies particularly to changes in intracellular  $\text{Ca}^{2+}$  ion concentration ( $[\text{Ca}^{2+}]_i$ ).  $[\text{Ca}^{2+}]_i$  can be measured, for example, by aequorin luminescence or fluorescence dye technology (e.g. using Fluo-3, Indo-1, Fura-2). Cellular assays can be designed where either the  $\text{Ca}^{2+}$  flux through the target channel itself is measured directly or where modulation of the target channel affects membrane potential and thereby the activity of co-expressed voltage-gated  $\text{Ca}^{2+}$  channels.

2.2. Ion channel currents result in changes of electrical membrane potential ( $V_m$ ) which can be monitored directly using potentiometric fluorescent probes. These electrically charged indicators (e.g. the anionic oxonol dye DiBAC4(3)) redistribute between extra- and intracellular compartment in response to voltage changes. The equilibrium distribution is governed by the Nernst-equation. Thus changes in membrane potential results in concomitant changes in cellular fluorescence. Again, changes in  $V_m$  might be caused directly by the activity of the target ion channel or through amplification and/or prolongation of the signal by channels co-expressed in the same cell.

2.3. Target channel activity can cause cellular  $\text{Ca}^{2+}$  entry either directly or through activation of additional  $\text{Ca}^{2+}$  channel (see 2.1). The resulting intracellular  $\text{Ca}^{2+}$  signals

regulate a variety of cellular responses, e.g. secretion or <sup>975</sup>gene transcription. Therefore modulation of the target channel can be detected by monitoring secretion of a known hormone/transmitter from the target-expressing cell or through expression of a reporter gene (e.g. luciferase) controlled by an Ca<sup>2+</sup>-responsive promoter element (e.g. cyclic AMP/ Ca<sup>2+</sup>-responsive elements; CRE).

(c) Transcription factors

In one embodiment, one or more of the differentially expressed polynucleotide sequences of Tables 1, 2, 3, 4, or 5 may encode a transcription factor. The activity of such a transcription factor may be measured, for example, by a promotor assay which measures the ability of the transcription factor to initiate transcription of a test sequence linked to a particular promotor. In one embodiment, the present invention provides a method for screening a test compound for its ability to modulate the activity of such a transcription factor by measuring the changes in the expression of a test gene which is regulated by a promoter which is responsive to the transcription factor.

A promoter assay can be set up with a human hepatocellular carcinoma cell HepG2 that is stably transfected with a luciferase gene under the control of a X (e.g. thyroid hormone) regulated promoter. The vector 2xIROluc, which can be used for transfection, carries a thyroid hormone responsive element (TRE) of two 12 bp inverted palindromes separated by an 8 bp spacer in front of a tk minimal promoter and the luciferase gene.

Test cultures are seeded in 96 well plates in serum - free Eagle's Minimal Essential Medium supplemented with glutamine, tricine, sodium pyruvate, non - essential amino acids, insulin, selen, transferrin, and are cultivated in a humidified atmosphere at 10 % CO<sub>2</sub> at 37°C. After 48 hours of incubation serial dilutions of test compounds or reference compounds (L-T<sub>3</sub>, L-T<sub>4</sub> e.g.) and costimulator if appropriate (final concentration 1 nM) are added to the cell cultures and incubation is continued for the optimal time (e.g. another 4-72 hours). The cells are then lysed by addition of buffer containing Triton X100 and luciferin and the luminescence of luciferase induced by T<sub>3</sub> or other compounds is measured in a luminometer. For each concentration of a test compound replicates of 4 can be tested. EC<sub>50</sub> - values for each test compound can be calculated by use of, for example, the Graph Pad Prism Scientific software.

*Screening of Therapeutic agents that modulate the in vivo activity of proteins encoded by genes that are Differentially Expressed in Pain*

The invention further provides for a screen of therapeutic compounds that modulate the in vivo activity of proteins encoded by genes that are differentially expressed in an animal subjected to pain (see Tables 1, 2, 3, 4, or 5). Methods for measuring changes in the in vivo activity of the proteins of the invention are well known in the art and include, but are not limited to, testing for changes in enzymatic activity, G coupled receptor activity or ion channel activity (as described herein under Polypeptide Activity); transcription factor function or the activity of signal transduction pathway intermediates. Generally, these methods involve administering a candidate compound, as defined herein, or a placebo, to an animal that has been subjected to pain, preparing protein extracts from neural tissues and testing for a modulation in the protein activity in the extract in response to the candidate compound. In one embodiment, "protein activity" refers to the activity of a protein that is encoded by a gene that has been identified as a gene that is differentially expressed in an animal subjected to pain. In another embodiment, "protein activity" refers to the activity of one or more proteins whose activity is modulated by a protein that is encoded by a gene that has been identified as a gene that is differentially expressed in an animal subjected to pain.

In one embodiment, the "protein activity", according to the invention, refers to the ability of one or more ligands to bind to cell surface receptors that are differentially expressed in animals subjected to pain. For example, WO0102566A1 describes a screen for compounds that modulate the binding of glutamate to glutamate binding receptors.

In another embodiment, the "protein activity", according to the invention, is controlled by post-translational protein modification, e.g. phosphorylation or dephosphorylation. For example the protein, identified as being encoded by a gene that is differentially expressed in animals subjected to pain, may be a kinase, whose activity is modulated in response to a candidate compound either by direct phosphorylation or dephosphorylation. Alternatively, the activity of the kinase can be determined by assaying the phosphorylation of one or more substrates of the kinase. Methods for measuring the phosphorylation state of a protein are well known to a person skilled in the art. Typically radioactive phosphate is administered to a test animal that is then subjected to pain in the presence or absence of a therapeutic compound. Protein extracts are then prepared from neurological tissues and the protein of interest is isolated by immunoprecipitation and analyzed by SDS polyacrylamide electrophoresis. A 10% or more increase or decrease in the level of phosphorylation of the protein of interest in the presence of a compound relative to the

level of phosphorylation<sup>977</sup> in the absence of the compound is indicative of a compound that modulates the "protein activity".

More generally, a gene, that is differentially expressed in animals subjected to pain, may encode a kinase or phosphatase that is part of a signal transduction pathway known in the art. If so, modulation of the activity of the kinase or phosphatase in response to a candidate compound can be determined by assaying the activity of pathway intermediates that are found downstream of the kinase or phosphatase in the pathway. For example, the activity of a kinase or phosphatase can be determined by measuring effects on gene expression or transcription factor activity. Methods for measuring differential gene expression or transcription factor function are well known in the art and are described supra. For example, the binding activity of a transcription factor to its cognate DNA binding site can be tested in protein extracts derived from treated animals using a mobility shift type analysis (see, e.g., Sambrook, Fritsch & Maniatis, 1989, Molecular Cloning: A Laboratory Manual, Second Edition; Short Protocols In Molecular Biology, (Ausubel et al., ed., 1995)). In addition, the ability of a transcription factor to activate transcription from a promoter containing one or more cognate DNA binding sites can also be tested using standard reporter type assays (GFP, CAT, lacZ) that are also well known in the art (See Ausubel et al; supra).

#### Modeling of Regulators

Computer modeling and searching technologies permit identification of compounds, or the improvement of already identified compounds, that can modulate the differentially expressed protein expression or activity. Having identified such a compound or composition, the active sites or regions are identified. Such sites might typically be the enzymatic active site, regulator binding sites, or ligand binding sites. The active site can be identified using methods known in the art including, for example, from the amino acid sequences of peptides, from the nucleotide sequences of nucleic acids, or from study of complexes of the relevant compound or composition with its natural ligand. In the latter case, chemical or X-ray crystallographic methods can be used to find the active site by finding where on the factor the complexed ligand is found.

Next, the three dimensional geometric structure of the active site is determined. This can be done by known methods, including X-ray crystallography, which can determine a complete molecular structure. On the other hand, solid or liquid phase NMR can be used to determine certain intramolecular distances. Any other experimental method of structure determination can



be used to obtain part<sup>978</sup> or complete geometric structures. The geometric structures may be measured with a complexed ligand, natural or artificial, which may increase the accuracy of the active site structure determined.

If an incomplete or insufficiently accurate structure is determined, the methods of computer based numerical modeling can be used to complete the structure or improve its accuracy. Any recognized modeling method may be used, including parameterized models specific to particular biopolymers such as proteins or nucleic acids, molecular dynamics models based on computing molecular motions, statistical mechanics models based on thermal ensembles, or combined models. For most types of models, standard molecular force fields, representing the forces between constituent atoms and groups, are necessary, and can be selected from force fields known in physical chemistry. The incomplete or less accurate experimental structures can serve as constraints on the complete and more accurate structures computed by these modeling methods.

Finally, having determined the structure of the active site, either experimentally, by modeling, or by a combination, candidate modulating compounds can be identified by searching databases containing compounds along with information on their molecular structure. Such a search seeks compounds having structures that match the determined active site structure and that interact with the groups defining the active site. Such a search can be manual, but is preferably computer assisted. These compounds found from this search are potential the differentially expressed protein modulating compounds.

Alternatively, these methods can be used to identify improved modulating compounds from an already known modulating compound or ligand. The composition of the known compound can be modified and the structural effects of modification can be determined using the experimental and computer modeling methods described above applied to the new composition. The altered structure is then compared to the active site structure of the compound to determine if an improved fit or interaction results. In this manner systematic variations in composition, such as by varying side groups, can be quickly evaluated to obtain modified modulating compounds or ligands of improved specificity or activity.

Analgesia Assays: In vivo testing of compounds/target validation for pain treatment

*Acute Pain*

Acute pain is measured on a hot plate<sup>979</sup> mainly in rats. Two variants of hot plate testing are used: In the classical variant animals are put on a hot surface (52 to 56 °C) and the latency time is measured until the animals show nocifensive behavior, such as stepping or foot licking. The other variant is an increasing temperature hot plate where the experimental animals are put on a surface of neutral temperature. Subsequently this surface is slowly but constantly heated until the animals begin to lick a hind paw. The temperature which is reached when hind paw licking begins is a measure for pain threshold.

Compounds are tested against a vehicle treated control group. Substance application is performed at different time points via different application routes (intravenous (i.v.), intraperitoneal (i.p.), by mouth (p.o.), by inhalation (i.t.), Intracerebroventricular (i.c.v.), subcutaneous (s.c.), intradermal, or transdermal) prior to pain testing.

According to the invention, a candidate compound, may be administered to an animal which is subjected to an acute pain assay. Acute pain, measured according to the above assay, decreased by at least 10%, and preferably 20%, 40%, 60%, and up to 100% is then indicative of a candidate compound that decreases pain.

#### *Persistent Pain*

Persistent pain is measured with the formalin or capsaicin test, mainly in rats. A solution of 1 to 5% formalin or 10 to 100 µg capsaicin is injected into one hind paw of the experimental animal. After formalin or capsaicin application the animals show nocifensive reactions like flinching, licking and biting of the affected paw. The number of nocifensive reactions within a time frame of up to 90 minutes is a measure for intensity of pain.

Compounds are tested against a vehicle treated control group. Substance application is performed at different time points via different application routes (i.v., i.p., p.o., i.t., i.c.v., s.c., intradermal, transdermal) prior to formalin or capsaicin administration.

According to the invention, a candidate compound, may be administered to an animal which is subjected to an persistent pain assay. Persistent pain, measured according to the above assay, decreased by at least 10% and preferably 20%, 40%, 60%, and up to 100% is then indicative of a candidate compound that decreases pain.

#### *Neuropathic Pain*

Neuropathic pain is induced by different variants of unilateral sciatic nerve injury mainly in rats. The operation is performed under anesthesia. The first variant of sciatic nerve injury is produced by placing loosely constrictive ligatures around the common sciatic nerve (Bennett and Xie, Pain 33 (1988): 87-107). The second variant is the tight ligation of about the half of the diameter of the common sciatic nerve (Seltzer et al., Pain 43 (1990): 205-218). In the next variant, a group of models is used in which tight ligations or transections are made of either the L5 and L6 spinal nerves, or the L5 spinal nerve only (Kim SH; Chung Jm, An experimental-model for peripheral neuropathy produced by segmental spinal nerve ligation in the rat, Pain 50 (3) (1992): 355-363). The fourth variant involves an axotomy of two of the three terminal branches of the sciatic nerve (tibial and common peroneal nerves) leaving the remaining sural nerve intact whereas the last variant comprises the axotomy of only the tibial branch leaving the sural and common nerves uninjured. Control animals are treated with a sham operation.

Postoperatively, the nerve injured animals develop a chronic mechanical allodynia, cold allodynia, as well as a thermal hyperalgesia. Mechanical allodynia is measured by means of a pressure transducer (electronic von Frey Anesthesiometer, IITC Inc.-Life Science Instruments, Woodland Hills, SA, USA; Electronic von Frey System, Somedic Sales AB, Hörby, Sweden). Thermal hyperalgesia is measured by means of a radiant heat source (Plantar Test, Ugo Basile, Comerio, Italy), or by means of a cold plate of 5 to 10 °C where the nocifensive reactions of the affected hind paw are counted as a measure of pain intensity. A further test for cold induced pain is the counting of nocifensive reactions, or duration of nocifensive responses after plantar administration of acetone to the affected hind limb. Chronic pain in general is assessed by registering the circadian rhythms in activity (Surjo and Arndt, Universität zu Köln, Cologne, Germany), and by scoring differences in gait (foot print patterns; FOOTPRINTS program, Klapdor et al., 1997. A low cost method to analyse footprint patterns. J. Neurosci. Methods 75, 49-54).

Compounds are tested against sham operated and vehicle treated control groups. Substance application is performed at different time points via different application routes (i.v., i.p., p.o., i.t., i.c.v., s.c., intradermal, transdermal) prior to pain testing.

According to the invention, a candidate compound, may be administered to an animal, which is subjected to a neuropathic pain assay. Neuropathic pain, measured according to the above assay, decreased by at least 10% and preferably 20%, 40%, 60%, and up to 100% is then indicative of a candidate compound that decreases pain.

Inflammatory pain is induced mainly in rats by injection of 0.75 mg carrageenan or complete Freund's adjuvant into one hind paw. The animals develop an edema with mechanical allodynia as well as thermal hyperalgesia. Mechanical allodynia is measured by means of a pressure transducer (electronic von Frey Anesthesiometer, IITC Inc.-Life Science Instruments, Woodland Hills, SA, USA). Thermal hyperalgesia is measured by means of a radiant heat source (Plantar Test, Ugo Basile, Comerio, Italy, Paw thermal stimulator, G. Ozaki, University of California, USA). For edema measurement two methods are being used. In the first method, the animals are sacrificed and the affected hindpaws sectioned and weighed. The second method comprises differences in paw volume by measuring water displacement in a plethysmometer (Ugo Basile, Comerio, Italy).

Compounds are tested against uninflamed as well as vehicle treated control groups. Substance application is performed at different time points via different application routes (i.v., i.p., p.o., i.t., i.c.v., s.c., intradermal, transdermal) prior to pain testing.

According to the invention, a candidate compound, may be administered to an animal which is subjected to an inflammatory pain assay. Inflammatory pain, measured according to the above assay, decreased by at least 10% and preferably 20%, 40%, 60%, and up to 100% is then indicative of a candidate compound that decreases pain.

#### *Diabetic Neuropathic Pain*

Rats treated with a single intraperitoneal injection of 50 to 80 mg/kg streptozotocin develop a profound hyperglycemia and mechanical allodynia within 1 to 3 weeks. Mechanical allodynia is measured by means of a pressure transducer (electronic von Frey Anesthesiometer, IITC Inc.-Life Science Instruments, Woodland Hills, SA, USA).

Compounds are tested against diabetic and non-diabetic vehicle treated control groups. Substance application is performed at different time points via different application routes (i.v., i.p., p.o., i.t., i.c.v., s.c., intradermal, transdermal) prior to pain testing.

According to the invention, a candidate compound, may be administered to an animal which is subjected to an Diabetic Neuropathic pain assay. Diabetic Neuropathic pain, measured according to the above assay, decreased by at least 10% and preferably 20%, 40%, 60%, and up to 100% is then indicative of a candidate compound that decreases pain.

In one embodiment, the candidate compounds <sup>982</sup> which are administered to an animal subjected to one or more of the above pain stimuli, can be a candidate compound which has been previously determined to regulate the expression of one or more of the differentially expressed polynucleotide sequences indicated in Tables 1, 2, 3, 4, or 5, and/or previously determined to regulate the activity of a protein encoded by one or more of the differentially expressed polynucleotides indicated in Table 1, 2, 3, 4, or 5.

### *Dosage and Administration*

Therapeutic agents of the invention are administered to an animal, preferably in a biologically compatible solution or a pharmaceutically acceptable delivery vehicle, by ingestion, injection, inhalation or any number of other methods. For embodiments where the therapeutic agent is a vector comprising an antisense sequence, a sequence encoding a ribozyme, or a sequence designed to supplement a down regulated sequence in an animal subjected to pain, the vectors may be administered as a pharmaceutical formulation, or may be administered using any method known in the art including microinjection, transfection, transduction, and *ex vivo* delivery. The dosages administered will vary from patient to patient; a "therapeutically effective dose" is determined, for example but not limited to, by the level of enhancement of function (e.g., for a nucleic acid sequence which is overexpressed by at least 1.4 fold in an animal subjected to pain relative to a naïve animal, a therapeutically effective dose is one which reduces the level of overexpression of the sequence to less than 1.4 fold. The converse would define a therapeutically effective dose for increasing the expression of an under-expressed sequence).

A therapeutic agent according to the invention is preferably administered in a single dose. This dosage may be repeated daily, weekly, monthly, yearly, or until the nucleic acid sequence is no longer differentially expressed.

### *Pharmaceutical Compositions*

The invention provides for compositions comprising a therapeutic agent according to the invention admixed with a physiologically compatible carrier. As used herein, "physiologically compatible carrier" refers to a physiologically acceptable diluent such as water, phosphate buffered saline, or saline, and further may include an adjuvant. Adjuvants such as incomplete Freund's adjuvant, aluminum phosphate, aluminum hydroxide, or alum are materials well known in the art.

The invention also provides for pharmaceutical compositions. In addition to the active ingredients, these pharmaceutical compositions may contain suitable pharmaceutically acceptable carrier preparations which is used pharmaceutically.

Pharmaceutical compositions for oral administration are formulated using pharmaceutically acceptable carriers well known in the art in dosages suitable for oral administration. Such carriers enable the pharmaceutical compositions to be formulated as tablets, pills, dragees, capsules, liquids, gels, syrups, slurries, suspensions and the like, for ingestion by the patient.

Pharmaceutical preparations for oral use are obtained through a combination of active compounds with solid excipient, optionally grinding a resulting mixture, and processing the mixture of granules, after adding suitable auxiliaries, if desired, to obtain tablets or dragee cores. Suitable excipients are carbohydrate or protein fillers such as sugars, including lactose, sucrose, mannitol, or sorbitol; starch from corn, wheat, rice, potato, or other plants; cellulose such as methyl cellulose, hydroxypropylmethyl-cellulose, or sodium carboxymethyl cellulose; and gums including arabic and tragacanth; and proteins such as gelatin and collagen. If desired, disintegrating or solubilizing agents may be added, such as the cross-linked polyvinyl pyrrolidone, agar, alginic acid, or a salt thereof, such as sodium alginate.

Dragee cores are provided with suitable coatings such as concentrated sugar solutions, which may also contain gum arabic, talc, polyvinylpyrrolidone, carbopol gel, polyethylene glycol, and/or titanium dioxide, lacquer solutions, and suitable organic solvents or solvent mixtures. Dyestuffs or pigments may be added to the tablets or dragee coatings for product identification or to characterize the quantity of active compound, i.e., dosage.

Pharmaceutical preparations which are used orally include push-fit capsules made of gelatin, as well as soft, sealed capsules made of gelatin and a coating such as glycerol or sorbitol. Push-fit capsules can contain active ingredients mixed with a filler or binders such as lactose or starches, lubricants such as talc or magnesium stearate, and, optionally, stabilizers. In soft capsules, the active compounds may be dissolved or suspended in suitable liquids, such as fatty oils, liquid paraffin, or liquid polyethylene glycol with or without stabilizers.

Pharmaceutical formulations for parenteral administration include aqueous solutions of active compounds. For injection, the pharmaceutical compositions of the invention may be formulated in aqueous solutions, preferably in physiologically compatible buffers such as Hank's

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solution, Ringer' solution, or physiologically buffered saline. Aqueous injection suspensions may contain substances which increase the viscosity of the suspension, such as sodium carboxymethyl cellulose, sorbitol, or dextran. Additionally, suspensions of the active solvents or vehicles include fatty oils such as sesame oil, or synthetic fatty acid esters, such as ethyl oleate or triglycerides, or liposomes. Optionally, the suspension may also contain suitable stabilizers or agents which increase the solubility of the compounds to allow for the preparation of highly concentrated solutions.

For nasal administration, penetrants appropriate to the particular barrier to be permeated are used in the formulation. Such penetrants are generally known in the art.

The pharmaceutical compositions of the present invention may be manufactured in a manner known in the art, e.g. by means of conventional mixing, dissolving, granulating, dragee-making, levitating, emulsifying, encapsulating, entrapping or lyophilizing processes.

The pharmaceutical composition may be provided as a salt and are formed with many acids, including but not limited to hydrochloric, sulfuric, acetic, lactic, tartaric, malic, succinic, etc... Salts tend to be more soluble in aqueous or other protonic solvents that are the corresponding free base forms. In other cases, the preferred preparation may be a lyophilized powder in 1mM-50 mM histidine, 0.1%-2% sucrose, 2%-7% mannitol at a pH range of 4.5 to 5.5 that is combined with buffer prior to use.

After pharmaceutical compositions comprising a therapeutic agent of the invention formulated in a acceptable carrier have been prepared, they are placed in an appropriate container and labeled for treatment of an indicated condition with information including amount, frequency and method of administration.

## EXAMPLES

The examples below are non-limiting and are merely representative of various aspects and features of the present invention.

### Example 1. Identification of differentially expressed nucleic acid sequences

The present invention relates to a method for the identification of nucleic acid sequences and/or genes which are differentially expressed in an animal which has been subjected to pain. In one embodiment, the animal is a pain model, that is, the animal has been artificially

manipulated such that <sup>985</sup> it meets the criteria for a state of pain as described above. In one embodiment the animal pain model is produced by transection of the sciatic nerve (axotomy). In an alternate embodiment, the animal pain model is the spared nerve injury model (SNI; Decosterd and Woolf, 2000 *Pain* 87: 149) in which one of the terminal branches of the sciatic nerve is spared from axotomy. In a further alternate embodiment, the animal pain model is an inflammation model (Stein et al., (1988) *Pharmacol Biochem Behav* 31: 445-451; Woolf et al., (1994) *Neurosci.* 62, 327-331) in which an irritant such as CFA is injected into an animal to induce inflammation.

#### *Animal pain models*

Axotomy of the sciatic nerve was performed on adult (200-250 g) male Sprague-Dawley rats. Under halothane (2%) anesthesia, the skin on the lateral surface of the thigh was incised and an incision made directly through the biceps femoris muscle exposing the sciatic nerve. The axotomy procedure involves transecting the sciatic nerve following ligation. The sciatic nerve was tight-ligated with 5.0 silk and sectioned distal to the ligation, removing 2-4 mm of the distal nerve stump. Great care was taken to avoid any contact with or transection of any collateral branches of the sciatic nerve proximal to the transection site, or any cutaneous nerve branches. Muscle and skin were closed in two layers, and animals were allowed to recover for 3-5 days prior to testing for signs of pain including mechanical allodynia, mechanical hyperalgesia, cold allodynia, and heat hyperalgesia using the criteria described above. Sham control animals (naïve) involved exposure of the sciatic nerve and its branches without any lesion.

The SNI nerve injury model was performed on adult (200-250 g) male Sprague-Dawley rats. Under halothane (2%) anesthesia, the skin on the lateral surface of the thigh was incised and a section made directly through the biceps femoris muscle exposing the sciatic nerve and its three terminal branches: the sural, common peroneal and tibial nerves.

The SNI procedure comprises an axotomy and ligation of the tibial and common peroneal nerves leaving the sural nerve intact. The common peroneal and the tibial nerves were tight-ligated with 5.0 silk and sectioned distal to the ligation, removing 2-4 mm of the distal nerve stump. Great care was taken to avoid any contact with or stretch of the intact sural nerve. Muscle and skin were closed in two layers and animals were allowed to recover for at least one week prior to testing for signs of pain including mechanical allodynia, mechanical hyperalgesia,



cold allodynia, and heat hyperalgesia using the criteria described above. <sup>986</sup> Sham control animals (naïve) involved exposure of the sciatic nerve and its branches without any lesion.

The inflammation animal pain model was performed on adult male Sprague-Dawley rats (10-11 weeks old, 300-350 g). Inflammation was induced by an intra-plantar injection of complete Freund's adjuvant (CFA, Sigma, 1  $\mu$ l – 1 ml) into the left hind paw of rats under halothane (2.5%) anesthesia, producing an area of erythema, edema and tenderness restricted to the hindpaw (Stein et al., (1988) *Pharmacol Biochem Behav* 31: 445-451; Woolf et al., (1994) *Neurosci.* 62, 327-331). Animals were subsequently tested for signs of pain including mechanical allodynia, mechanical hyperalgesia, cold allodynia, and heat hyperalgesia using the criteria described above.

#### *Total RNA isolation*

Following the surgical procedures described above and testing to insure that the axotomy and SNI model animals met the pain criteria described, control and pain model animals were rapidly killed by decapitation. Axotomy model animals were killed 3 days following axotomy, and SNI model animals were killed 10-15 days following surgery.

The dorsal root ganglia (DRG) from spinal levels L4-L5 were removed from the SNI, axotomy, and control animals and snap-frozen in a dry ice/ethanol slurry. DRGs from the two spinal levels were pooled for each animal and total RNA was extracted using Trizol (Invitrogen) according to the manufacturers instructions. Briefly, tissue samples were homogenized in a ground glass homogenizer in 1 ml of Trizol reagent per 50-100 mg of tissue. The samples were incubated for 5 min. at 15-30° C to permit the complete dissociation of nucleoprotein complexes. Subsequently, 0.2 ml of chloroform was added per 1 ml of Trizol reagent. Samples were agitated and incubated at 15-30° C for 2 to 3 minutes. Samples were then centrifuged at no more than 12,000 x g for 15 minutes at 2-8° C. The aqueous phase was then transferred to a fresh tube and the RNA was precipitated by mixing with 0.5 ml of isopropyl alcohol per 1 ml Trizol reagent used for the initial homogenization. Samples were incubated at 15-30° C for 10 minutes and centrifuged at 12,000 x g for 10 minutes. The supernatant is then removed, and the RNA pellet was washed with 75% ethanol. The RNA pellet is then air dried and resuspended in either RNase-free water or 0.5% SDS solution. The integrity of the RNA samples was verified on a 1% agarose gel, and the RNA was quantified by measuring absorbance at 260/280 nm. cRNA was then prepared from 10  $\mu$ g of total RNA using techniques that are well known in the art.

Briefly, total RNA (7 to 10 µg) was isolated and reverse transcribed<sup>987</sup> using a primer consisting of oligo-dT coupled to a T7 RNA polymerase binding site. The cDNA was made double stranded and biotinylated cRNA was synthesized using T7 polymerase. Unincorporated nucleotides were removed, and the cRNA was quantitated using methods known to those of skill in the art; a yield of cRNA between 25 and 80 µg was typical.

#### *Array hybridization*

The cRNA samples from axotomy, SNI and naïve animals were randomly sheared to an approximate length of 50 nucleotides and subsequently hybridized to an Affymetrix rat genome U34 gene chip set. Briefly, labeled nucleic acid is denatured by heating for 2 minutes at 100° C, and incubated at 37° C of 20-30 minutes before being placed on a nucleic acid array under a 22 mm x 22 mm glass cover slip. Hybridization is carried out at 65° C for 14 to 18 hours in a custom slide chamber with humidity maintained by a small reservoir of 3 x SSC. The array is washed by submersion and agitation for 2-5 min in 2X SSC with 0.1% SDS, followed by 1X SSC, and 0.1X SSC. Finally, the array is dried by centrifugation for 2 minutes in a slide rack in a Beckman GS-6 tabletop centrifuge in Microplus carriers at 650 RPM for 2 min.

External standards were included in each hybridization to control for hybridization efficiency, to test for sensitivity and assist in the comparisons between data sets from different experiments. These external standards are cRNA transcribed from the bacterial genes *bio b*, *bio c*, *bio d*, *cre*, *thr*, and *phe*. The first hybridization was against a Test Chip, which contains probes against human, mouse and yeast mRNAs as well as probes against the exogenously added control RNA. The Test Chips are designed to determine the quality of the cRNA mixture. Stringent washing in the fluidics station reduces non-specific hybridization and the hybridized biotinylated cRNA was detected by incubation with phycoerythrin-streptavidin and was quantitated by scanning using the Hewlett-Packard GeneArray laser scanner. Following positive analysis of the Test Chip, the same hybridization mixture was then added to the Rat Genome U34 gene chip set which monitors the expression of >24,000 genes and EST clusters. The sequences include all rat sequence clusters from Build #34 of the UniGene Database (created from GenBank 107/dbEST 11/18/98) and supplemented with additional annotated gene sequences from GenBank 110. The chips were hybridized, reacted with phycoerythrin-streptavidin, washed and then incubated with a polyclonal anti-streptavidin antibody coupled to phycoerythrin as an amplification step to aid in the detection of lower abundance transcripts.

Following further washing, the expression chip was scanned as above.<sup>988</sup> Analysis of the scanned data was performed using GeneChip software.

### *Gene selection*

Known or EST gene sequences were first selected as being potentially differentially expressed based on the fold change in hybridization between the naïve animals and either the axotomy or SNI pain models. This was measured as the ratio of the expression level, measured as the intensity of the hybridization signal of the cRNA probe on the microarray for a specific gene, of either SNI or axotomy to naïve. Based on previous studies which demonstrate that the expression of the heat shock protein Hsp27 is increased 1.5 fold after axotomy, a 1.4 fold change in expression in either the axotomy or SNI models relative to naïve was chosen as a numerical cutoff for differential expression. Genes identified as being differentially expressed based on the measurement of an at least 1.4 fold change in expression are shown in tables 1, 2, 3, 4, or 5. Table 1 shows a group of genes which have been previously suggested to exhibit regulated expression in pain models, but which have been evaluated for purposes of the present invention as being differentially expressed by at least 1.4 fold in both a rat axotomy pain model and a SNI pain model relative to the expression level in an animal not subjected to pain. Thus, from the genes and polynucleotides shown in Table 1, only those showing a axotomy/naïve or SNI/naïve ratio of +/- 1.4 or greater were identified as being differentially expressed. Tables 2-3 show a number of genes which were identified by the methods of the present invention as being differentially expressed by at least 1.4 fold in an animal subjected to a nerve injury or inflammatory pain model. In addition, the polynucleotides indicated in Table 2, have been further confirmed as being differentially expressed based on triplicate expression analysis (i.e., samples from three different animals hybridized to three different microarrays, wherein samples are obtained from several different animal pain models, and wherein the polynucleotide sequences are differentially expressed by at least 1.2 fold, with a significance of  $p < 0.05$  in at least one pain model). Table 4 shows a group of genes which exhibit an at least 1.4 fold increase in expression in the inflammation pain model. Table 5 shows a group of genes which exhibit an at least 1.4 fold decrease in expression in the inflammation pain model. The data in Tables 1, 3, 4, and 5 represent the average hybridization measurements obtained from at least two rat gene chips.

Genes identified as being differentially expressed based on an at least 1.4 fold change in expression were then screened by Northern analysis to verify differential expression.

For each gene suggested to be differentially expressed based on the microarray data, RT-PCR was performed on DRG total RNA obtained from the axotomy, SNI and naïve animal groups as described above. RT-PCR was performed according to techniques known in the art. The cDNA fragments generated in this manner were subsequently cloned into a PCRII vector using the TA cloning kit (Invitrogen). The identity of each fragment was verified by sequencing in each direction from the T3 and T7 polymerase sites present in the cloning vector. The cDNA molecules produced in this manner were then used to produce  $^{32}\text{P}$ -labeled cDNA probes using the Prime-It kit from Stratagene. Subsequently, 5 to 10  $\mu\text{g}$  of total RNA isolated from axotomy, SNI and naïve DRGs were separated on an agarose/formaldehyde gel in 1X MOPS buffer. Following staining with ethidium bromide and visualization under ultra violet light to determine the integrity of the RNA, the RNA is hydrolyzed by treatment with 0.05M NaOH/1.5M NaCl followed by incubation with 0.5M Tris-Cl (pH 7.4)/1.5M NaCl. The RNA is transferred to a commercially available nylon or nitrocellulose membrane (e.g. Hybond-N membrane, Amersham, Arlington Heights, IL) by methods well known in the art (Ausubel et al., supra, Sambrook et al., supra). Following transfer and UV cross linking, the membrane is hybridized with a  $^{32}\text{P}$ -labeled cDNA probe, having a sequence complementary to the mRNA sequences identified as being differentially expressed by microarray analysis, in hybridization solution (e.g. in 50% formamide/2.5% Denhardt's/100-200mg denatured salmon sperm DNA/0.1% SDS/5X SSPE) overnight at 65°C. The hybridization conditions can be varied as necessary as described in Ausubel et al., supra and Sambrook et al., supra. Following hybridization, the membrane is washed at room temperature in 2X SSC/0.1% SDS, at 42°C in 1X SSC/0.1% SDS, at 65°C in 0.2X SSC/0.1% SDS, and exposed to film overnight with an intensifying screen at -80° C. The stringency of the wash buffers can also be varied depending on the amount of background signal (Ausubel et al., supra). The film was subsequently developed and the intensity bands corresponding to the radiolabeled probe hybridized to RNA were quantified using methods known to those of skill in the art, for example, by digitizing the film and analyzing the band intensity with a computer software program such as NIH Image (NIH, Bethesda, MD).

Figure 1 shows an example of Northern data which confirms the differential expression, or lack thereof, of 22 genes which were initially screened by microarray analysis of cRNA samples obtained from animals subjected to the axotomy pain model. Table 8 shows the

correlation of the data<sup>990</sup> obtained from the microarray analysis for these 22 genes and the data obtained by Northern analysis.

### Example 2. Verification by *In situ* Hybridization

In addition to verification of differential expression using Northern analysis, the present invention provides that the differential expression of genes in an animal subjected to pain may be confirmed using *in situ* hybridization.

*In situ* hybridization is carried out on fresh frozen, 5µm thick sections of the dorsal root ganglia from spinal levels L4-L5 obtained from animals subjected to pain, using isotopically-labeled probes. Forty-eight base pair oligonucleotide probes are designed to have 50% G-C content and be complementary to and selective for the desired mRNA. Probes are 3'-end labeled with <sup>35</sup>S or <sup>33</sup>P-dATP using a terminal transferase reaction and purified through a spin column. Hybridization is carried out such that homologies greater than 90% are required for detection of transcripts (Dagerlind et al., '92 *Histochemistry* 98:39). Generally, slides are brought to room-temperature and covered with a hybridization solution (50% formamide, 1x Dendhardt's solution, 1% sarcosyl, 10% dextran sulphate, 0.02M phosphate buffer, 4x SSC, 200 nM DTT, 500 mg/ml salmon sperm DNA) containing 107 cpm/ml of labeled probe. Slides are incubated in a humidified chamber at 43°C for 14-18 hours, then washed 4 x 15min in 1x SSC at 55°C. In the final rinse, slides are brought to room temperature, washed in dH<sub>2</sub>O, dehydrated in ethanol and air dried.

Autoradiograms are generated by dipping slides in NTB2 nuclear track emulsion and storing the dark at 4°C. Prior to conventional developing and fixation, sections are allowed to expose for 1-12 weeks, depending on the abundance of transcript. Unstained tissue is viewed under darkfield conditions using a fiber-optic darkfield stage adapter (MVI), while stained tissue is examined under brightfield conditions. Control experiments are conducted to confirm the specificity of the oligonucleotide probes. Sections are hybridized with labeled probe, labeled probe with a 1,000-fold excess of cold probe, or labeled probe with a 1,000-fold excess of another, dissimilar cold probe of the same length and similar G-C content.

The use of serial, thin sections permits the identification of the same cells in adjacent sections, allowing for comparisons to be made with other markers by *in situ* hybridization or immunohistochemistry. The technique unlike non-isotopic *in situ* using digoxigenin labeled riboprobes is suited to screening more than detailed analysis of co-expression of multiple markers.

Figures 2 and 3 show the results of *in situ* hybridization verification of the differential expression of five genes (GTPcyclo, IES-JE, CCHL2A, VGF, SNAP, c-jun, and TrkA) in the dorsal root ganglia of a rat axotomy pain model and a rat spared nerve injury pain model.

#### Example 3. Verification of differential expression by Real-time PCR

In addition to verification of differential expression by Northern analysis or *in situ* hybridization, the differential expression of genes in an animal subjected to pain may be verified using real-time PCR and TaqMan® probes. The technique of real-time PCR is well known in the art (see, for example, U.S. Pat. Nos. 5,691,146; 5,779,977; 5,866,336; and 5,914,230).

cDNA samples obtained from a rat axotomy pain model were amplified using primers specific for 19 genes which had previously been examined by microarray analysis and SYBR Green I as the double stranded DNA binding dye. PCR products were generated using an ABI 7700 sequence detection system (Applied Biosystems, Foster City, CA). A comparison of the expression level measured by microarray analysis and that obtained by real-time PCR is shown in Table 9. A close correlation can be seen between the differential expression, or lack thereof, of genes examined by microarray analysis and using the Taqman® technique.

#### Example 4. Triplicate Analysis

As described above, a polynucleotide sequence is identified as being differentially regulated in an animal subjected to pain relative to an animal not subjected to the same pain if the sequence is differentially expressed by at least 1.4 fold, and additionally, if the differential expression attains a statistical significance over at least three replicate screens, in at least on pain model, with a p-value of less than 0.05. This example describes how to perform such a statistical analysis, using the axotomy and SNI pain models.

##### *Surgical procedures.*

Adult male Sprague Dawley rats (200-300g) are anesthetized with halothane. For the sciatic nerve transection (axotomy), the left sciatic nerve is exposed at the mid thigh level, ligated with 3/0 silk and sectioned distally. The wound is sutured in two layers, and the animals were allowed to recover.

##### *Tissue and RNA preparation.*

Animals are terminally anesthetized with CO<sub>2</sub>, the L4 and L5 DRGs rapidly removed, and stored at -80°C. Total RNA is extracted from homogenized DRG samples using acid phenol extraction (TRIzol reagent, Gibco-BRL). RNA concentration is evaluated by A<sub>260</sub> measurement and quality assessed by electrophoresis on a 1.5% agarose gel. Each RNA sample used for hybridization of each array can be extracted, for example, from rat L4 and L5 DRGs (10 ganglia pooled from 5 animals, per sample).

#### *Microarray Analysis*

Affymetrix rat genome U34A oligonucleotide microarrays, representing 8799 known transcripts and expressed sequence tags (ESTs), can be used (Affymetrix, Santa Clara, CA). Oligonucleotides are arranged in pairs corresponding to different regions of the target mRNA with multiple probe pairs. Each probe pair consists of a 25 nucleotide perfect match (PM) to the target region coupled with a 25-mer with a single mismatch (MM) at the 13<sup>th</sup> nucleotide. Transcript abundance is estimated by analysis of signal intensity of the PM/MM pairs. The arrays are hybridized with biotin-labeled cRNA, prepared as per standard Affymetrix protocol. Briefly, total RNA (8 µg) from DRGs was reverse transcribed using an oligo-dT primer coupled to a T7 RNA polymerase binding site. Double-stranded cDNA can be made and biotinylated-cRNA synthesized using T7 polymerase. The cRNA is then hybridized for about 16 hours to an array, followed by binding with a streptavidin-conjugated fluorescent marker, and then incubated with a polyclonal anti-streptavidin antibody coupled to phycoerythrin as an amplification step. Following washing, the chips are scanned with a Hewlett-Packard GeneArray laser scanner and data analyzed using GeneChip software. External standards can be included to control for hybridization efficiency and sensitivity.

Hybridization levels for each species of mRNA detected on the arrays are expressed by intensity (signal) and as present (P), marginal (M) or absent (A) calls, calculated by Affymetrix software (MAS 5.0,  $\alpha_1 = 0.04$   $\alpha_2 = 0.06$ ). For calculation of signal values, each array is scaled to a target signal of 2500 across all probe sets, to allow comparison between arrays.

The arrays are grouped for two comparisons: two triplicate sets of naïve data compared with one another, and one triplicate naïve set compared with one triplicate post-axotomy set. The individual naïve arrays included in each triplicate set are picked randomly. A probe set is determined undetected if it received an A call in all of the six arrays involved in the comparison. Detected are Present or Marginal by MAS5.0 in at least one array for each analysis. Mean signal

and standard deviation are calculated for each detected probe set. The p-value for rejecting the null hypothesis that the mean signals were equal between the two triplicate sets is calculated using an unpaired, two-tailed t-test for independent samples with unequal variance (Satterthwaite's method). Fold-differences between the mean signals (A and B) in the two triplicate sets is calculated as  $\max(A, B) / \min(A, B)$  with down regulation relative to naïve expressed as negative.

As noted above, a polynucleotide sequence is considered to be differentially expressed according to the present invention if it is differentially expressed by at least 1.4 fold in an animal subjected to pain relative to an animal not subjected to the same pain, and optionally, is also statistically significantly differentially expressed with a p-value of less than 0.05 across at least three replicate expression screens.

#### Example 5. Pain-specific Microarray Construction

A microarray according to the invention was constructed as follows.

cDNA samples obtained from the dorsal root ganglia of either naïve animals or animals which have been subjected to pain are amplified using primers specific for the genes which have been identified as being differentially expressed using the methods described above. PCR products (~40 ul) in the same 96-well tubes used for amplification, are precipitated with 4 ul (1/10 volume) of 3M sodium acetate (pH 5.2) and 100 ul (2.5 volumes) of ethanol and stored overnight at -20°C. They are then centrifuged at 3,300 rpm at 4°C for 1 hour. The obtained pellets were washed with 50 ul ice-cold 70% ethanol and centrifuged again for 30 minutes. The pellets are then air-dried and resuspended well in 20ul 3X SSC overnight. The samples are then deposited either singly or in duplicate onto polylysine-coated slides (Sigma Cat. No. P0425) using a robotic GMS 417 arrayer (Genetic MicroSystems, MA). The boundaries of the DNA spots on the microarray are marked with a diamond scribe. The invention provides for arrays wherein 10-20,000 PCR products are spotted onto a solid support to prepare an array.

The arrays are rehydrated by suspending the slides over a dish of warm particle free ddH<sub>2</sub>O for approximately one minute (the spots will swell slightly but not run into each other) and snap-dried on a 70-80°C inverted heating block for 3 seconds. DNA is then UV crosslinked to the slide (Stratagene, Stratalinker, 65 mJ – set display to “650” which is 650 x 100 uJ). The arrays are placed in a slide rack. An empty slide chamber is prepared and filled with the



methyl-2-pyrrolidinone (rapid addition of reagent is crucial); immediately after the last flake of succinic anhydride dissolved, 21.0 ml of 0.2 M sodium borate is mixed in and the solution is poured into the slide chamber. The slide rack is plunged rapidly and evenly in the slide chamber and vigorously shaken up and down for a few seconds, making sure the slides never leave the solution, and then mixed on an orbital shaker for 15-20 minutes. The slide rack is then gently plunged in 95°C ddH<sub>2</sub>O for 2 minutes, followed by plunging five times in 95% ethanol. The slides are then air dried by allowing excess ethanol to drip onto paper towels. The arrays are then stored in the slide box at room temperature until use.

#### Example 6. Therapeutic Agent Screening

A candidate agent that increases or decreases the expression of a polynucleotide sequence that is differentially expressed in the sensory neurons of an animal subjected to pain is screened according to the following method.

An animal that has been subjected to pain is treated with a candidate agent for varying amounts of time. Typically an animal is treated by systemic administration of a candidate agent, such as by intravenous administration, on a hourly, daily, or weekly dosing schedule. Following administration, the animals are killed, and the dorsal root ganglia are removed and used to prepare cRNA samples as described above. The cRNA samples are then hybridized to a pain-specific microarray, constructed according to the method described above. The hybridization of the cRNA samples to the microarray can be used to determine the level of expression of the genes in the animal subjected to pain which correspond to the differentially expressed genes comprising the microarray. Thus any changes in the predicted differential expression of a gene in an animal treated with a candidate agent is indicative of that agent being capable of increasing or decreasing the expression of a gene which is known to be differentially expressed in an animal subjected to pain.

#### Example 7: In vivo protein activity screening

Microarrays can be used to screen *in vivo* for genes that are regulated in pain as a result of the activity of specific protein signaling molecules. To do this, the changes in gene expression produced in the pain models are compared with the changes in gene expression produced in the same models when a particular signaling molecule is neutralized or inhibited by preventing its synthesis, release, transport, binding to a receptor or activation of a cellular response. Any

resultant difference in gene expression profile will represent the contribution of the signaling molecule. Further confirmation can be produced by the administration of the signaling molecule *in vivo* to see if it induces a change in gene regulation.

Such an analysis has been performed looking at the contribution of the neurotrophin nerve growth factor (NGF) to inflammatory pain. Inflammation is known to produce an increase in NGF at the site of the inflammation and this acts on its high affinity receptor TrkA expressed on sensory neurons to change transcription of NGF-regulated genes in the sensory neuron cell body in the DRG. The pattern of expression of genes after inflammation induced *in vivo* by intraplantar CFA (at 3, 12 24 hrs and 5 days) was compared with naïve non-inflamed animals to detect inflammation-induced genes. This gene expression profile was then compared with arrays produced from RNA from inflamed animals treated with a neutralizing anti-NGF antibody. One example of a gene that was upregulated by CFA, but whose level did not increase in CFA animals treated with antiNGF was the NF-kappaB inhibitor alpha (I kappa B). I kappa B alpha was also upregulated 12 and 24 hrs after intraplantar NGF injection showing that it is an NGF regulated inflammatory-induced gene.

Affymetrix accession #X63594cds\_g\_at X63594cds RRRLIF1 R.rattus RL/IF-1 mRNA

	<u>CFA</u>	<u>NGF</u>	<u>CFA + anti-NGF</u>
	Fold	Fold	Fold
Ni			
3h	-1		
6h	8.5		
12h	2.1	3.5	-1.8
24h	3.4	1.5	1.4
2d	1.1		
5d	1.6		

Affymetrix accession numbers #X63594cds\_g\_at and X63594cds RRRLIF1 refer to sequences depicted in Table 2.

#### OTHER EMBODIMENTS

Other embodiments will be evident to those of skill in the art. It should be understood that the foregoing detailed description is provided for clarity only and is merely exemplary. The spirit and scope of the present invention are not limited to the above examples, but are encompassed by the following claims.

## CLAIMS

1. A composition comprising two or more isolated polynucleotides, wherein each of said two or more isolated polynucleotides is selected from the group consisting of:

(a) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene";

(b) a polynucleotide encoding an amino acid sequence selected from the group consisting of:

(i) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(ii) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein";

(c) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(d) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(e) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier".

2. A plurality of vectors each comprising an isolated polynucleotide, wherein each of said two or more isolated polynucleotides is selected from the group consisting of:

(a) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene";

(b) a polynucleotide encoding an amino acid sequence selected from the group consisting of:

(i) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(ii) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein";

(c) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(d) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(e) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier".

3. A host cell comprising the vector of claim 2.

4. A method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising:

(a) hybridizing a nucleic acid sample corresponding to RNA obtained from said animal to a nucleic acid sample comprising one or more nucleic acid molecules of known identity;

(b) measuring the hybridization of said nucleic acid sample to said one or more nucleic acid molecules of known identity, wherein a 1.4 fold difference in the hybridization of said nucleic acid sample to said one or more nucleic acid molecules of known identity relative to a nucleic acid sample obtained from an animal which has not been subjected to said pain is indicative of the differential expression of said nucleotide sequence in said animal subjected to pain.

5. A method for identifying a nucleotide sequence which is differentially regulated in an animal subjected to pain, comprising:

(a) hybridizing a nucleic acid sample corresponding to RNA obtained from an animal which has been subjected to pain to an array comprising a solid substrate and a plurality of nucleic acid members;

(b) wherein each nucleic acid member has a unique position and is stably associated with the solid substrate;

(c) measuring the hybridization of said nucleic acid sample to said array, wherein a 1.4 fold difference in the hybridization of said nucleic acid sample to one or more nucleic acid members comprising said array relative to a nucleic acid sample obtained from an animal which has not been subjected to said pain is indicative of the differential expression of said nucleotide sequence in said animal subjected to pain.

6. The method of claim 5, wherein a 2 fold change in the hybridization of said nucleic acid sample to one or more nucleic acid members comprising said array relative to a nucleic acid sample obtained from an animal which has not been subjected to said pain is indicative of the differential expression of said nucleotide sequence following pain.

7. A kit for performing any of the methods of claim 4 to 5.

8. An array comprising:

(a) a plurality of polynucleotide members, wherein each of said plurality of polynucleotides is selected from the group consisting of:

(i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene";

(ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of:

(1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein";

(iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (i) to (ii) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (i) to (iii) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (i) to (iv) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; and

(b) a solid substrate, wherein each polynucleotide member has a unique position on said array and is stably associated with said solid substrate.

9. A method of identifying an agent that increases or decreases the expression of a polynucleotide sequence that is differentially expressed in neuronal tissue of a first animal which is subjected to pain comprising:

- (a) administering said agent to said first animal;
- (b) hybridizing nucleic acid isolated from one or more sensory neurons of said first and a second animal to the array of claim 8; and
- (c) measuring the hybridization of said nucleic acid isolated from said neuronal tissue of said first and second animal to said array; wherein an increase in hybridization of said nucleic acid from said first animal to one or more nucleic acid members of said array relative to hybridization of said nucleic acid from a second animal which is subjected to pain but to which is not administered said agent to one or more nucleic acid members of said array identifies said agent as increasing the expression of said polynucleotide sequence, and wherein a decrease in hybridization of said nucleic acid from said first animal to one or more nucleic acid members of said array relative to the hybridization of said nucleic acid from second animal to one or more nucleic acid members of said array identifies said agent as decreasing the expression of said polynucleotide sequence.

10. A method for identifying a compound which regulates the expression of a polynucleotide sequence which is differentially expressed in an animal subjected to pain, comprising:

- (a) providing a cell comprising and capable of expressing one or more of the polynucleotide selected from the group consisting of:
  - (i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene";
  - (ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of:
    - (1) amino acid sequences which are homologue to any of the amino



the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein";

(iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(b) contacting said cell with a candidate compound; and

(c) measuring the expression of said one or more of the polynucleotide specified supra, wherein if the expression of said differentially expressed polynucleotide sequence is increased in an animal which is subjected to pain, then said candidate modulator will be considered to regulate the expression of said polynucleotide if the expression of said polynucleotide is decreased by at least 10% in the presence of said candidate modulator, and wherein if the expression of said differentially expressed polynucleotide sequence is decreased in an animal subjected to pain, then said candidate modulator will be considered to regulate the expression of said polynucleotide if the expression of said polynucleotide is increased by at least 10% in the presence of said candidate modulator.

11. A method for identifying a compound which can regulate the activity of one or more of the polypeptides shown in Table 1 or 2, comprising:

(a) providing a cell comprising said one or more polypeptides which are encoded by a polynucleotide selected from the group consisting of:

(i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene";

(ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of:

(1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein";

(iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(b) contacting said cell with a candidate compound; and

s (c) measuring the activity of said one or more polypeptides, wherein an increase or decrease of the activity of said one or more polypeptides of at least 10% relative to the activity of

compound, identifies said candidate compound as a compound which regulates the activity of said one or more polypeptides.

12. A method for producing a pharmaceutical formulation comprising:

(a) providing a cell comprising said one or more polypeptides encoded by a polynucleotide selected from the group consisting of:

(i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene";

(ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of:

(1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein";

(iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting

the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(b) selecting a compound which regulates the activity of said one or more polypeptides; and

(c) mixing said compound with a carrier.

13. The method of claim 12, wherein said step of selecting comprises the steps of

(a) contacting said cell with a candidate compound; and

(b) measuring the activity of said one or more polypeptides, wherein an increase or decrease of the activity of said one or more polypeptides of at least 10% relative to the activity of said one or more polypeptides in said cell, wherein the cell is not contacted with the candidate compound, identifies said candidate compound as a compound which regulates the activity of said one or more polypeptides

14. A method for identifying a compound which can regulate the activity, in an animal, of one or more of the polypeptides shown in Table 2, comprising:

(a) administering a candidate compound to an animal comprising said one or more polypeptides, or a unique fragment therefrom exhibiting the activity of ....; and

(b) measuring the activity of said one or more polypeptides wherein an increase or decrease of the activity of said polypeptide of at least 10% relative to the activity of said one or more polypeptides in an animal to which the candidate compound is not administered, identifies said candidate compound as a compound which regulates the activity of said one or more polypeptides.

15. A method for identifying a small molecule which regulates the activity of one or more of the polypeptides indicated in Table 2, comprising:

(a) providing a cell comprising said one or more polypeptides encoded by a polynucleotide selected from the group consisting of:

(i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene" and wherein at least one of said two

or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene";

(ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of:

(1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein";

(iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(b) generating a small molecule library;

(c) providing a candidate small molecule, selected from said library;

(d) contacting said cell with said candidate small molecule; and

(e) measuring the activity of said one or more polypeptides, wherein an increase or decrease of the activity of said one or more polypeptides of at least 10% relative to the activity of

small molecule, identifies said candidate small molecule as a small molecule which regulates the activity of said one or more polypeptides.

16. The method of claim 15, wherein said small molecule library comprises components selected from the group consisting of heterocyclics, aromatics, alicyclics, aliphatics, steroids, antibiotics, enzyme inhibitors, ligands, hormones, alkaloids, opioids, terpenes, porphyrins, toxins, and catalysts, and combinations thereof.

17. A method for identifying a compound useful in the treatment of pain, comprising:

(a) providing a host cell comprising a vector comprising one or more of the polynucleotides selected from the group consisting of:

(i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene";

(ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of:

(1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein";

(iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and

encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(b) maintaining said host cell under conditions which permit the expression of said one or more polynucleotides;

(c) selecting a compound which regulates the activity of a polypeptide encoded by said one or more polynucleotides;

(d) administering said compound to an animal subjected to pain; and

(e) measuring the level of pain in said animal, wherein a decrease in the level of pain in said animal of at least 10%, identifies said compound as being useful for treating pain.

18. The method of claim 17, wherein said step of selecting includes the steps of

(a) contacting said cell with a candidate compound; and

(b) measuring the activity of the polypeptide encoded by said one or more polynucleotides, wherein an increase or decrease of the activity of said polypeptide of at least 10% relative to the activity of said polypeptide in said cell, wherein the cell is not contacted with the candidate compound, identifies said candidate compound as a compound which regulates the activity of said polypeptide.

19. The use of a compound identifiable by any of the methods of claim 9 to 17 in the preparation of a medicament for the treatment of pain in an animal.

20. The use of:

(a) a polynucleotide selected from the group consisting of:

(i) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two

or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene";

(ii) a polynucleotide encoding an amino acid sequence selected from the group consisting of:

(1) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(2) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein";

(iii) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(iv) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(v) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(vi) a polypeptide encoded by any of the polynucleotides specified in (i) to (v);

in the preparation of a medicament for the treatment of pain in an animal.

21. The use of a compound which can modulate the activity of a polypeptide which is encoded by a polynucleotide selected from the group consisting of:

tl

(a) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in



more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene";

(b) a polynucleotide encoding an amino acid sequence selected from the group consisting of:

(i) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(ii) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein";

(c) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(d) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(e) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

in the preparation of a medicament for the treatment of pain in an animal.

22. A pharmaceutical formulation comprising one or more polypeptides encoded by a polynucleotide selected from the group consisting of:

(a) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene";

(b) a polynucleotide encoding an amino acid sequence selected from the group consisting of:

(i) amino acid sequences which are homologue to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(ii) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein";

(c) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(d) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

(e) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";

and a carrier.

23. A pharmaceutical formulation comprising one or more antibodies which bind to one or more of the polypeptides encoded by a polynucleotide selected from the group consisting of:

(a) a polynucleotide comprising any of the polynucleotides specified in Table 1-2 in the columns designated "rat gene" and "human gene", and wherein at least one of said two or more isolated polynucleotides is unique to Table 2 in the columns designated "rat gene" and "human gene";

(b) a polynucleotide encoding an amino acid sequence selected from the group

- (i) amino acid sequences which are homologous to any of the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein" by at least the homology as specified for the respective sequence in Table 2 in the column designated "%homology" and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";
- (ii) the amino acid specified in Table 2 in the columns designated "rat protein" and "human protein";
- (c) a polynucleotide which hybridizes under high stringency conditions to a polynucleotide specified in (a) to (b) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";
- (d) a polynucleotide the nucleic acid sequence or which deviates from the nucleic acid sequences specified in (a) to (c) due to the degeneration of the genetic code and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier";
- (e) a polynucleotide which represents a fragment, derivative or allelic variation of a nucleic acid sequence specified in (a) to (d) and encodes a polypeptide exhibiting the biological function as specified for the respective sequence in Table 2 in the column designated "identifier"; and a carrier.

Figure 1

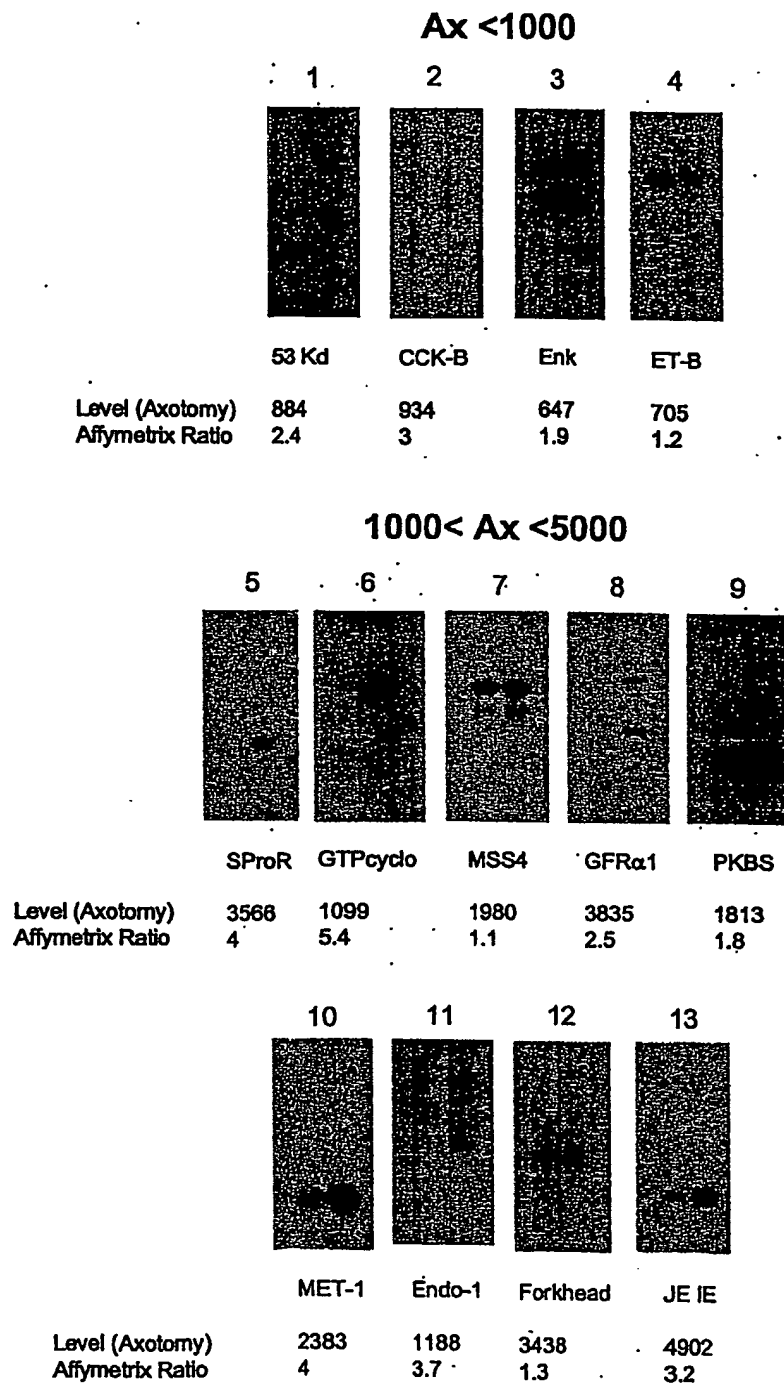


Figure 1 Continued

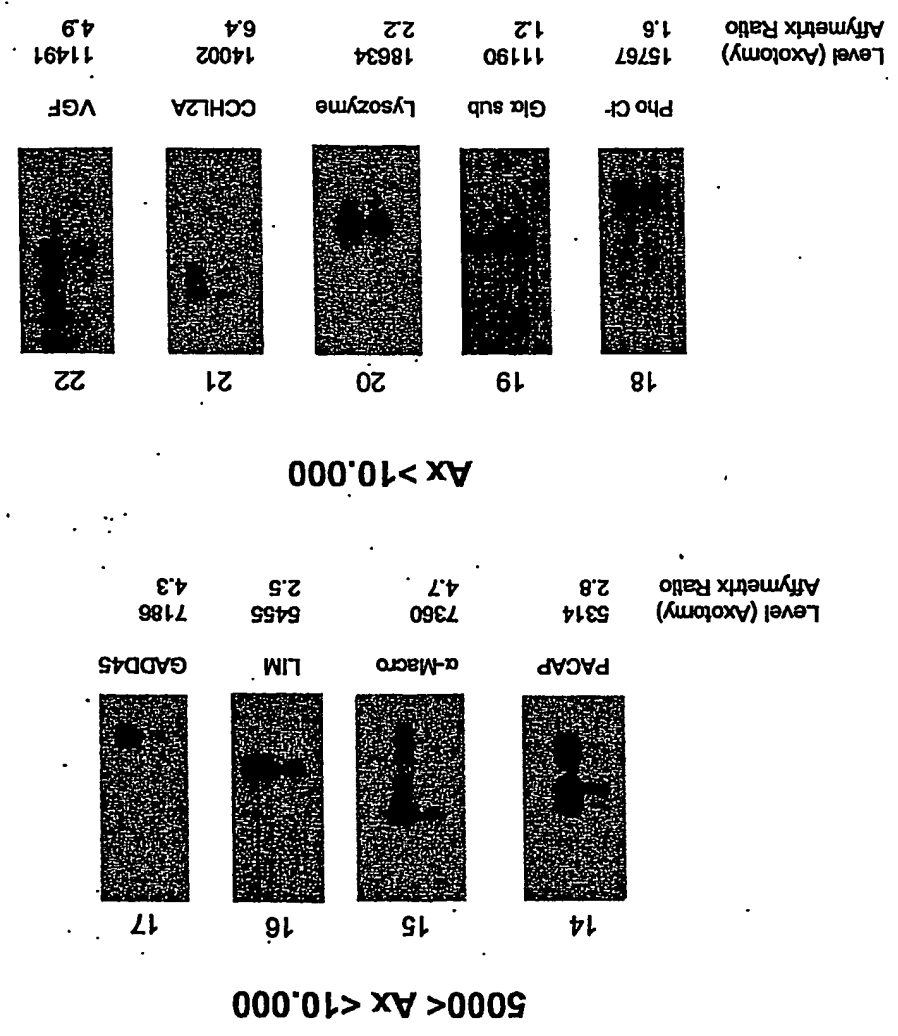


Figure 2

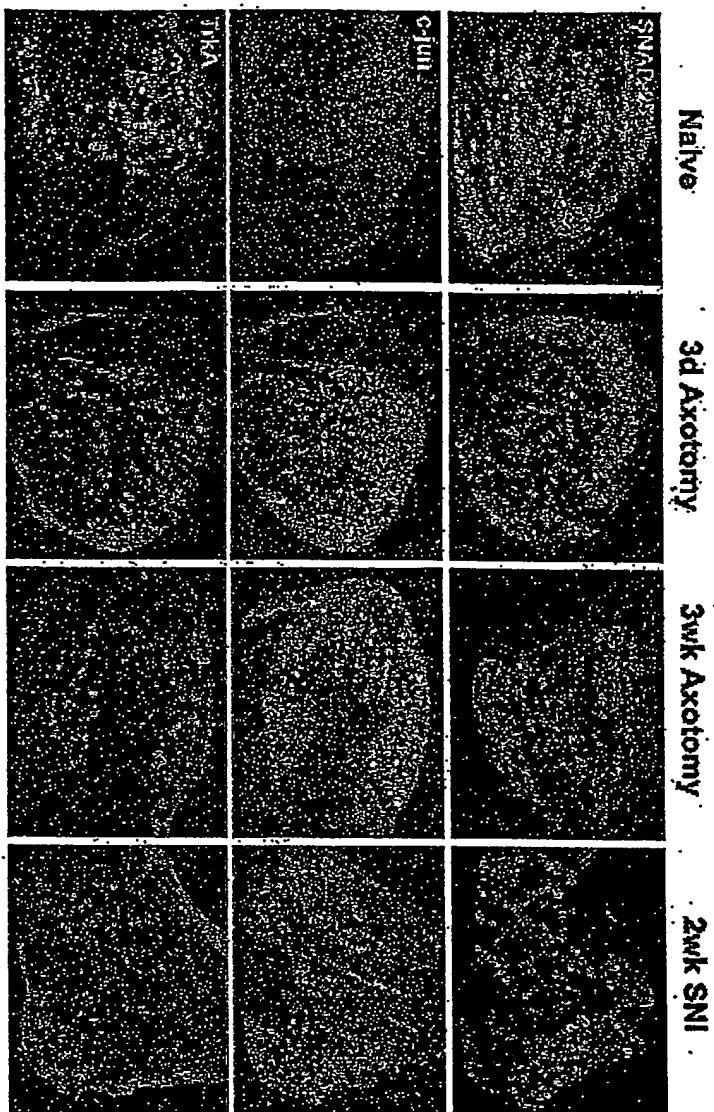
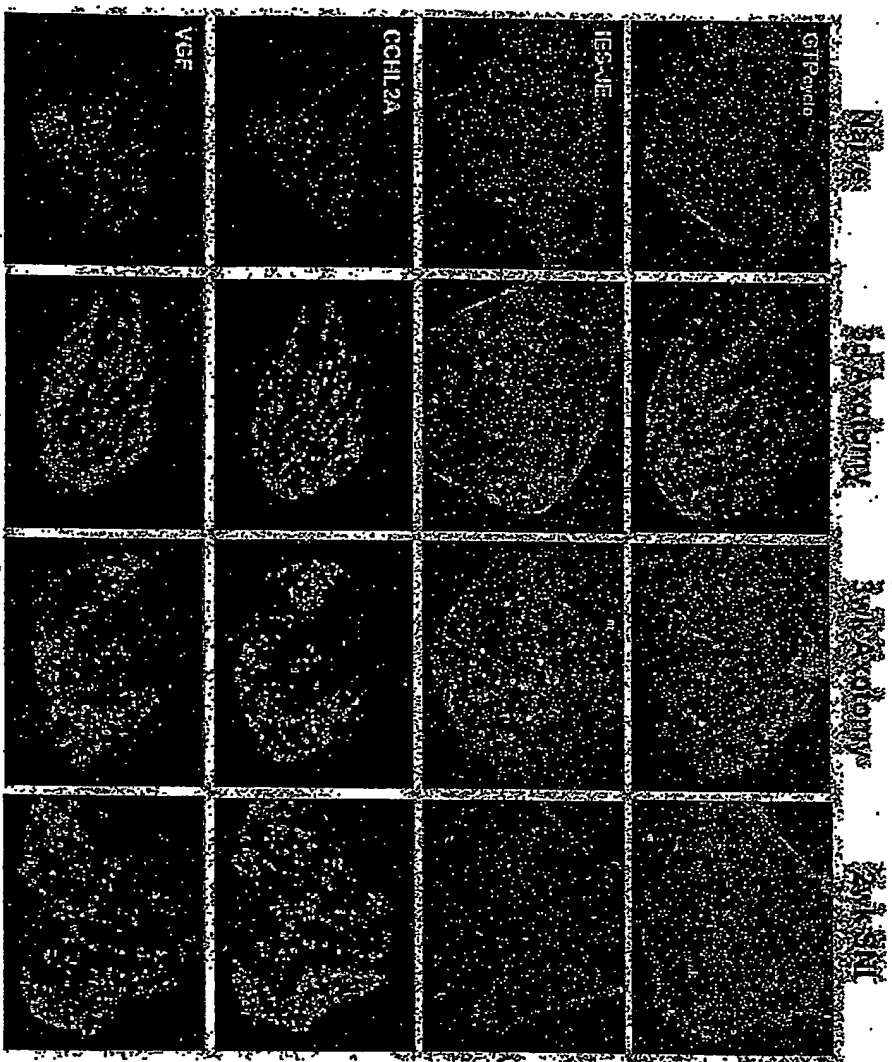


Figure 3



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